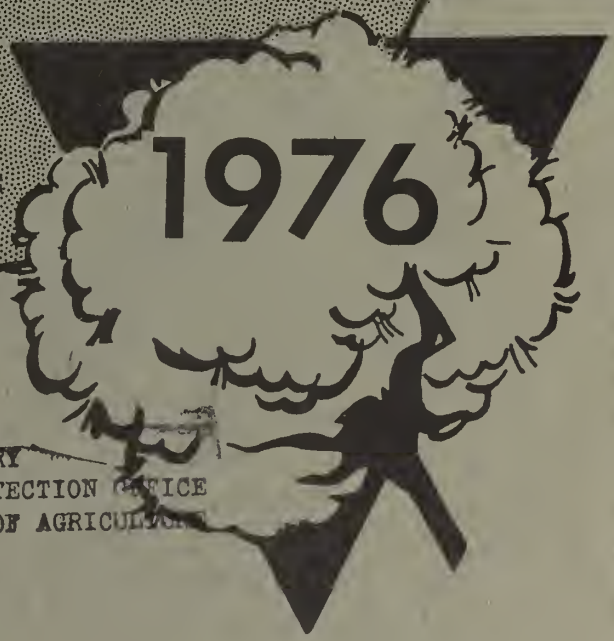
Summary of
Cotton Fiber and Processing Test Results

CROP of 1976



U.S. DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
Cotton Division June 1977

CONTENTS

SUMMARY OF COTTON FIBER AND PROCESSING TEST RESULTS
CROP of 1976

INTRODUCTION

This report contains information on the fiber properties and spinning performance of cotton from major commercial production areas of the United States. Similar reports have been published annually since 1946. 1/ These reports summarize and add supplemental information to the data published in biweekly reports which were titled "Cotton Fiber and Processing Test Results, Crop of 1976" and numbered 1 through 11.

The results of fiber and spinning tests made in connection with these annual surveys provide data for studies of the relationships between fiber properties, processing performance and product quality. The data are used to measure the effectiveness of the standards to be sure that they continue to reflect differences in spinning utility. Publication of the biweekly reports enables merchants and manufacturers to use the results to locate sources of cotton to meet their specific requirements. Farmers and breeders may also use the data as a source of quality information regarding the various varieties of cottons produced under commercial growing conditions.

SAMPLING PROCEDURES

The procedure for selecting samples for the 1976 survey was designed to provide test lots representing all major varieties in each of the territories served by Cotton Division classing offices. Variety selections were based on the predominant varieties planted in each classing office territory as reported by the Cotton Division in "Cotton Varieties Planted, 1972-1976". A production area was selected to represent the leading variety and one to represent each of the other varieties with an expected production of 10,000 bales or more in each classing office territory. Additional areas were selected for those varieties with a production of over 150,000 bales. One additional production area was selected for each 150,000 bales or portion thereof in excess of the first 150,000 bales. Production areas with at least 70 percent of one variety were designated as that variety with no attempt made to maintain the purity of the variety except by selection of representative production areas. However, in some cases, where there was unusual interest in a particular variety and a low percentage was planted in the area, the classing offices selected lots representing 100 percent of the variety. The locations of the 128 production areas selected for the 1976 survey are shown on figure 1.

1/ Copies of past summary reports may be obtained from the Standardization Section, Cotton Division, AMS, USDA, 4841 Summer Avenue, Memphis, Tennessee 38122 until supplies are exhausted.

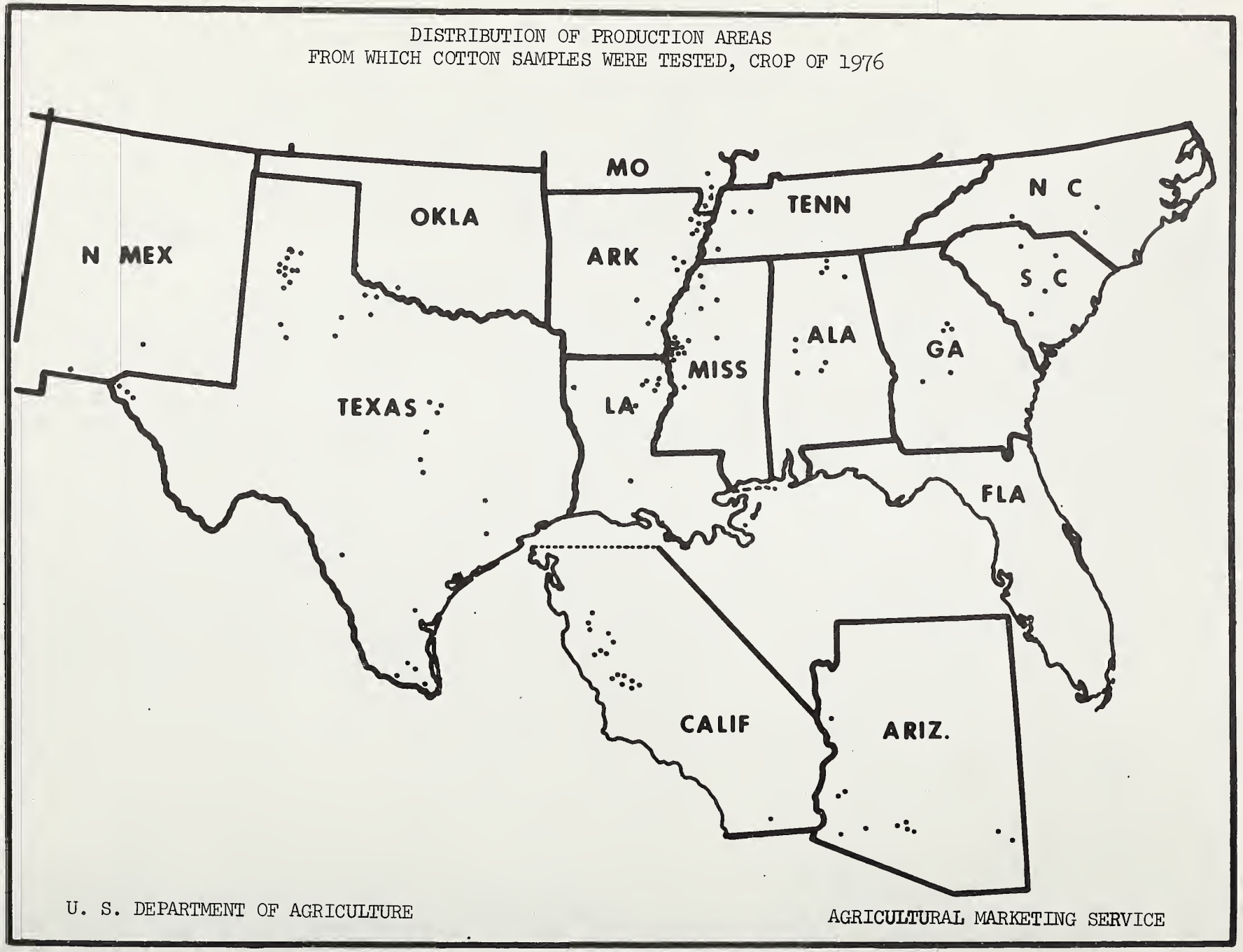


Figure 1. Location of production areas selected for the 1976 Survey.

Test lots were collected from each production area at intervals of three weeks during the harvest season. Lots were selected to represent the predominant grade and staple being classed at the time of collection. For the most part, these areas produce the specified qualities in quantities large enough to enable buyers to obtain lots of even-running grade and staple. Obviously, other qualities of cotton are available in each area as a result of normal seasonal, soil, harvesting and other variations. Most production areas also produce cotton of varieties other than those included in the tests.

Each spinning lot used in this study was made up of 20 to 30 samples of the same grade and staple length from bales classed for growers under the Smith-Doxey Act. These even-running lots of samples were then tested at Cotton Division fiber and spinning laboratories. While this method of collecting samples does not provide data for all qualities in the crop, it does provide average test results for those qualities in largest supply during each three-week period.

LABORATORY PROCEDURES

Fiber, spinning, and chemical finishing tests were performed under standardized procedures at the Cotton Division spinning laboratory at Clemson, South Carolina. Most of the fiber tests were performed in the standard atmospheric conditions of 65 percent relative humidity at a temperature of 70 degrees F. Standard test procedures as outlined by the American Society for Testing and Materials were used in making tests. Tests not covered by ASTM were performed using commonly accepted procedures as recommended by the instrument manufacturer. Five subsamples were taken at random from each spinning lot to provide representative specimens for the fiber tests.

Yarn processing or spinning tests were performed by a technique developed in the Cotton Division laboratories for processing small lots of cotton on standard-type textile machines. The samples in each lot were thoroughly composited by hand-mixing before being fed to the first process picker. This hand-mixing is similar to the machine mixing normally obtained in cotton textile opening equipment. Observations were made at each process to measure processing behavior and the yarns produced were tested to measure product quality.

On the basis of average past performance, cottons were grouped according to the expected staple length for the specified variety. All cottons of the specified variety were spun in the same manner regardless of difference in staple length. This was done so that direct comparisons of different lots of cotton within a specified variety could be made. These samples were

carded at specified production rates and spun into numbers that reflect the manufacturing values of the varieties tested. In general, the rates of carding and yarn numbers spun from the 1976 crop are as follows:

Group 1.--Short staple cottons, carded at 12-1/2 pounds per hour and spun into carded 8s and 22s yarns with a twist multiplier of 4.40 plus a carded yarn spinning potential test for all lots. This includes varieties which normally produce staple lengths 31/32 and shorter.

Group 2.--Medium staple cottons, carded at 9-1/2 pounds per hour and spun into carded 22s and 50s yarns with a twist multiplier of 4.00 plus a carded yarn spinning potential test for all lots. This group includes varieties which normally produce cottons from 1 inch through 1-3/32 inches in staple length.

Group 3.--Long staple cottons, carded at 6-1/2 pounds per hour and spun into both carded and combed 22s and 50s yarns with a twist multiplier of 3.80 plus a carded yarn spinning potential test for all lots. This group includes upland varieties which normally produce cottons from 1-1/8 inches through 1-1/4 inches in staple length.

Group 4.--Extra long staple cottons, carded at 4-1/2 pounds per hour and spun into combed 50s and 80s yarns with a twist multiplier of 3.60. This group includes all American Pima and American upland extra long staple varieties, which are usually 1-5/16 inches or longer in staple length.

Skeins of yarn from each spinning test lot were bleached and dyed by a technique developed in the Cotton Division laboratories for small scale finishing tests. Color tests were made on gray and chemically finished skeins of yarn as measures of the bleaching and dyeing behavior.

TEST RESULTS

U. S. AVERAGE - Upland Cotton

American upland spinning lots tested from the 1976 crop totaled 365, which includes short, medium and long staple cottons. This compares with 369 lots tested from the 1975 crop. Average fiber test results show 1976 cottons to have about the same fiber length, uniformity and strength as in 1975. These cottons were coarser than in 1975. Shirley Analyzer nonlint content was slightly lower, while picker and card waste was slightly higher in 1976. Yarns spun from these samples showed slightly weaker yarn strength, but fewer yarn imperfections. The average spinning potential yarn number was lower (Table 1).

Group 1.--Short Staple Cottons

A total of 59 short staple American upland spinning lots was tested from the 1976 crop compared to 65 in 1975. Average fiber test results show the 1976 cottons to be coarser and weaker at both zero and 1/8" gage strength tests. Shirley Analyzer nonlint content was much lower while picker and card waste was higher than a year ago. Yarns spun from these samples were considerably weaker, but appearance grades were higher than 1975 cottons. Yarn imperfections were fewer than a year ago. The average spinning potential yarn number was lower.

Group 2.--Medium Staple Cottons

American upland medium staple spinning lots tested from the 1976 crop totaled 286 compared with 263 from the 1975 crop. Average test results for the 1976 cottons tested showed these cottons to be slightly shorter and stronger at zero gage strength tests than in 1975. Shirley Analyzer nonlint content was slightly lower, while picker and card waste was higher than a year ago. Yarns spun from these samples were slightly stronger with lower appearance grades than in 1975. Yarn imperfections were lower in the 1976 cottons. Average spinning potential was slightly lower.

The Southeastern production area includes North Carolina, South Carolina, Georgia and Alabama. A total of 50 medium staple spinning lots was tested in 1976 compared to 44 in 1975. Average results in 1976 showed the cottons to be longer, more uniform, coarser and stronger than in 1975. Shirley Analyzer nonlint content was much lower in 1976. Yarns spun from these samples were much stronger with slightly higher appearance grades. Yarn imperfections were fewer than a year ago. Average spinning potential yarn number was higher.

The South Central production area includes the states of Tennessee, Missouri, Mississippi, Arkansas and Louisiana. A total of 124 medium staple lots was tested from this area compared to 114 in 1975. Average test results in 1976 showed these cottons significantly shorter, less uniform, finer and stronger at zero gage strength than in 1975. Shirley Analyzer nonlint content was lower, while picker and card waste was higher. Yarns spun from these samples were slightly stronger, but showed lower appearance grades than a year ago. Yarn imperfections were fewer. Average spinning potential yarn number was lower.

The Southwestern production area consists of the states of Oklahoma and Texas except far west Texas (served by the El Paso classing Office). A total of 39 medium staple American upland spinning lots was tested from the 1976 crop compared to 36 from the 1975 crop. Average results showed the 1976 cottons to be longer, more uniform, coarser and weaker at zero gage strength than the 1975 crop. Shirley Analyzer nonlint content was lower in 1976, while picker and card waste was considerably higher. Yarns spun from these samples showed higher appearance grades and fewer imperfections. Average spinning potential was slightly lower than a year ago.

The Western production area consists of California, Arizona, New Mexico and far west Texas. A total of 73 medium staple spinning lots was tested from this area in 1976 compared with 69 lots for the 1975 crop. Average test results from these medium staple samples show 1976 cottons to be slightly shorter, coarser and weaker at both zero and 1/8" gage strength tests than in 1975. Shirley Analyzer nonlint content was slightly lower, while picker and card waste was higher. Yarns spun from these samples show weaker yarn skein strength with lower appearance grades than in 1975. Yarn imperfections were fewer. Average spinning potential was lower in 1976.

Group 3.--Long Staple Cottons

American upland long staple spinning lots tested from the 1976 crop totaled 20 compared to 41 lots in 1975. Average results show 1976 cottons to be considerably longer, more uniform and coarser than a year ago. Both Shirley Analyzer nonlint content and picker and card waste were lower than a year ago. Yarns spun from these samples were much stronger with slightly fewer imperfections than a year ago. Average spinning potential was higher.

A total of 12 long staple American upland spinning lots was tested in 1976 from the Southeastern area compared to 18 lots in 1975. Average fiber test results from these long staple samples show 1976 cottons to be significantly longer, more uniform, coarser and stronger than a year earlier. Both Shirley Analyzer nonlint content and picker and card waste were significantly lower. Yarns spun from these samples were considerably stronger than a year ago. Yarn appearance grades were lower with more yarn imperfections. Average spinning potential yarn number was much higher.

A total of three long staple American upland spinning lots was tested in 1976 from the South Central area compared to 6 lots in 1975. Average fiber test results show the 1976 cottons to be slightly longer, less uniform, finer and stronger than a year ago. Both Shirley Analyzer nonlint content and picker and card waste were considerably lower than in 1975. Yarns spun from these samples show stronger yarn skein strength, but appearance grades were considerably lower. Yarn imperfections were fewer than a year ago. Average spinning potential yarn number was lower.

A total of five long staple American upland spinning lots was tested in 1976 from the Western area compared to 17 lots in 1975. Average fiber test results from these long staple lots show 1976 cottons to be longer, more uniform and slightly coarser than in 1975. Both Shirley Analyzer nonlint content and picker and card waste were much higher than a year ago. Yarns spun from these samples were stronger with higher appearance grades than a year ago. Yarn imperfections were fewer in 1976. Average spinning potential yarn number was higher.

Group 4.--Extra Long Staple

A total of 18 extra long staple American Pima spinning lots was tested from the Western area compared with 15 lots tested in 1975. Average fiber test results show 1976 extra long staple cottons to be longer, slightly less variable, and weaker at zero gage strength than 1975 cottons. Shirley Analyzer nonlint content, picker and card waste and comber waste were all lower than in 1975. Combed yarn spun from these samples were slightly weaker. Yarn appearance grades were higher than a year ago. Yarn imperfections were slightly fewer than in 1975.

Table 1.--Cotton: Average results of classification, fiber and processing tests from selected gin points, crops of 1975 and 1976

Area and Crop Year	Lots tested	Grade	Staple	Fiber test results						Processing test results				
				Fibrograph		Mike	Strength		Shirley Analyzer non-lint	Picker & Card Waste	Skein strength 22s	Appear-ance 22s	Yarn imperf. 22s	Spin. Potent.
				2.5% span	50/2.5 unif.		Zero gage	1/8" gage						
	No.	Index	32d in	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Lbs.	Index	No.	No.
SHORT STAPLE - American upland														
Southwest														
1975	65	91	30.8	0.95	45	3.6	85	22	3.9	6.6	98	106	20	43
1976	59	88	30.8	0.95	45	4.3	84	21	3.4	7.0	88	110	14	40
MEDIUM STAPLE - American upland														
Southeast														
1975	44	90	34.1	1.07	44	4.2	83	22	3.9	6.3	97	97	26	53
1976	50	91	34.3	1.08	45	4.6	85	23	3.2	6.3	106	98	20	56
South Central														
1975	114	92	34.8	1.10	45	4.3	85	23	3.2	5.7	105	101	21	59
1976	124	93	34.3	1.08	44	4.2	88	23	2.9	6.3	107	99	17	56
Southwest														
1975	36	91	33.5	1.05	43	3.7	83	22	3.7	6.2	103	88	32	56
1976	39	89	33.5	1.06	45	4.0	82	22	3.5	6.8	103	92	25	55
West														
1975	69	97	35.3	1.12	45	4.1	92	26	2.3	5.5	123	93	23	69
1976	73	96	35.3	1.11	45	4.2	89	25	2.2	5.8	118	89	19	66
Average														
1975	263	93	34.6	1.09	45	4.2	86	23	3.1	5.8	108	97	23	60
1976	286	93	34.5	1.08	45	4.2	87	23	2.9	6.2	109	95	19	58

Table 1.--Continued

Area and Crop Year	Lots tested	Grade	Staple	Fiber test results						Processing test results				
				Fibrograph		Mike	Strength		Shirley Analyzer non-lint	Picker & Card Waste	Skein strength 22s	Appearance 22s	Yarn imperf. 22s	Spin. Potent.
				2.5% span	50/2.5 unif.		Zero gage	1/8" gage						
	No.	Index	32d in	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Lbs.	Index	No.	No.
LONG STAPLE - American upland														
Southeast														
1975	18	87	34.2	1.09	43	4.2	85	23	3.7	9.6	91	110	19	54
1976	12	93	35.2	1.14	45	4.4	86	25	3.1	6.7	115	104	20	66
South Central														
1975	6	89	35.3	1.11	43	4.0	88	23	3.8	9.2	104	110	19	62
1976	3	94	35.0	1.12	42	3.7	91	26	3.4	6.8	109	97	13	57
West														
1975	17	98	36.5	1.16	45	3.3	93	26	3.1	8.7	138	82	39	89
1976	5	93	36.6	1.19	46	3.4	87	27	4.0	9.1	144	84	35	105
Average														
1975	41	92	35.4	1.12	44	3.8	89	24	3.5	9.1	113	99	28	69
1976	20	93	35.5	1.15	45	4.0	87	26	3.3	7.3	121	98	23	74
U. S. UPLAND AVG.														
1975	369	92	34.0	1.07	45	4.0	86	23	3.3	6.3	107	98	23	58
1976	365	92	33.9	1.07	45	4.2	86	23	3.0	6.4	106	98	19	56
EXTRA LONG STAPLE - American Pima														
West				Array							50's Combed Yarn			Comber Waste
1975	15	3	44.3	1.47	32	3.6	104	34	3.2	7.4	67	107	3	18.4
1976	18	3	44.9	1.49	31	3.6	102	34	2.7	6.8	65	110	2	16.0

Table 2.--Cotton: Average results of classification, fiber tests, and carded yarn processing tests by state for American upland samples from selected gin points, crops of 1975 and 1976

Area state and crop year	Spinning lots tested	Classification		Fiber length		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Potential
		Grade	Staple	2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Grayness	Yellowness	Composite		
SOUTHEAST	No.	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
Medium staple:															
Alabama															
1975	21	91	33.9	1.06	44	4.0	83	23	6.8	3.3	3	3	96	5.8	54
1976	24	91	33.9	1.08	45	4.4	84	23	6.9	2.7	2	3	99	6.1	57
Georgia															
1975	12	84	33.9	1.07	45	4.4	80	21	6.5	4.6	3	3	92	7.4	52
1976	12	88	34.8	1.08	46	4.7	84	23	6.7	3.7	3	3	95	6.7	56
North Carolina															
1975	6	91	34.8	1.08	46	4.4	87	22	5.8	4.0	3	3	93	7.1	50
1976	6	91	34.8	1.08	46	4.6	88	24	6.4	3.8	2	3	96	6.8	59
South Carolina															
1975	5	98	34.6	1.08	45	4.5	84	22	6.1	2.0	2	3	99	4.9	55
1976	8	92	34.2	1.08	45	4.7	88	23	6.0	2.9	2	3	96	6.1	56
Long staple:															
Alabama															
1975	6	85	33.7	1.08	41	3.9	84	22	6.6	3.9	3	3	93	9.4	53
1976	3	94	34.0	1.10	43	4.3	85	24	6.3	2.7	1	2	101	7.2	56
Georgia															
1975	6	87	34.2	1.08	44	4.4	86	23	6.2	4.0	4	3	91	10.0	51
1976	3	91	35.0	1.15	44	4.5	85	24	6.5	4.1	2	3	96	7.0	61
North Carolina															
1975	3	83	35.0	1.11	44	4.4	87	23	5.6	3.8	4	3	88	9.7	54
1976	3	94	35.7	1.15	46	4.4	89	26	6.7	2.4	2	3	99	6.1	73
South Carolina															
1975	3	94	35.0	1.12	44	4.2	83	22	5.7	2.6	3	2	96	8.9	60
1976	3	92	36.0	1.18	45	4.3	87	25	6.5	3.1	2	3	99	6.3	73
SOUTH CENTRAL															
Medium staple:															
Arkansas															
1975	33	93	34.9	1.11	45	4.5	85	23	6.5	3.0	2	3	100	5.4	58
1976	30	94	34.6	1.09	44	4.1	87	23	6.8	2.8	1	2	101	6.5	55
Louisiana															
1975	9	95	34.9	1.11	44	4.1	84	23	6.9	2.6	2	2	100	5.5	63
1976	24	95	34.4	1.09	45	4.5	87	23	6.9	2.6	1	2	102	5.9	57
Mississippi															
1975	45	91	34.9	1.10	45	4.3	86	23	6.4	3.3	2	2	97	5.9	60
1976	48	92	34.1	1.07	44	4.2	88	23	6.6	3.2	2	2	99	6.4	55
Missouri															
1975	12	92	34.8	1.10	45	4.3	83	22	6.8	3.1	2	3	98	5.5	57
1976	12	92	34.5	1.07	44	3.7	87	23	6.6	3.3	2	3	99	6.5	58
Tennessee															
1975	15	90	34.3	1.05	45	4.1	83	22	6.6	3.4	2	3	95	5.9	56
1976	10	91	33.8	1.05	45	4.1	85	22	7.4	2.6	2	3	99	5.5	56

Table 2.--Continued

Area state and crop year	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn		
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Blue-ness	Com-posite
	No.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
SOUTHEAST															
Medium staple:															
Alabama			50s		50s		50s		50s						
1975	21	99	31	6.0	4.2	94	71	27	22	85.9	3.3	106	27.6	25.6	101
1976	24	105	34	6.0	4.4	97	77	22	17	83.1	3.2	100	26.9	26.4	106
Georgia															
1975	12	93	30	5.5	3.9	98	77	25	20	85.4	3.2	105	27.4	25.3	100
1976	12	105	34	5.8	4.2	98	80	19	14	82.7	3.5	98	27.5	26.0	103
North Carolina															
1975	6	96	29	5.2	3.5	105	75	25	18	83.9	3.4	101	27.8	25.3	100
1976	6	108	35	5.6	4.2	100	82	20	15	82.3	4.0	95	26.8	26.2	105
South Carolina															
1975	5	100	32	5.5	3.9	98	70	20	16	84.6	3.0	104	27.7	25.5	101
1976	8	107	35	5.6	4.2	99	81	20	16	82.7	3.3	98	27.3	26.4	105
Long staple:															
Alabama															
1975	6	92	28	5.2	3.9	103	77	22	16	87.4	3.1	110	27.2	25.5	102
1976	3	104	34	5.5	4.1	107	83	20	14	83.6	2.7	103	27.4	26.1	104
Georgia															
1975	6	86	27	4.8	3.6	115	83	17	13	85.1	3.4	104	28.3	25.2	98
1976	3	113	38	5.5	4.3	107	90	17	14	82.2	4.1	94	27.2	26.3	105
North Carolina															
1975	3	94	30	4.9	3.6	103	80	25	18	84.4	3.1	103	28.9	25.2	97
1976	3	121	43	5.8	4.8	107	93	16	12	83.2	3.2	100	27.1	26.3	105
South Carolina															
1975	3	98	29	5.3	3.8	120	83	13	12	86.0	2.9	108	28.1	25.5	100
1976	3	121	43	6.0	4.7	97	80	26	20	82.7	3.2	99	26.9	26.2	105
SOUTH CENTRAL															
Medium staple:															
Arkansas															
1975	33	104	34	5.8	4.3	101	75	20	15	85.1	3.1	105	26.6	26.3	106
1976	30	108	35	6.0	4.4	94	75	19	15	83.2	3.0	101	26.9	26.5	106
Louisiana															
1975	9	111	37	6.4	4.7	99	78	22	17	85.6	3.1	106	27.1	25.9	103
1976	24	108	35	6.1	4.3	101	79	16	12	83.1	2.8	102	27.1	26.5	106
Mississippi															
1975	45	106	36	6.1	4.4	101	80	21	16	85.3	3.1	106	27.0	26.0	104
1976	48	106	34	5.9	4.2	101	80	16	13	83.3	2.8	102	27.5	26.3	104
Missouri															
1975	12	100	32	5.8	4.2	102	79	18	15	85.4	3.2	106	26.7	26.6	107
1976	12	109	35	6.3	4.5	95	74	19	15	83.1	3.1	100	27.0	26.2	105
Tennessee															
1975	15	101	32	6.0	4.3	104	83	21	16	85.0	3.3	104	27.3	26.0	104
1976	10	107	34	6.3	4.5	101	79	18	14	82.9	3.0	100	26.5	26.7	108

Table 2.--Cotton: Average results of classification, fiber tests, and carded yarn processing tests by state for American upland samples from selected gin points, crops of 1975 and 1976--Continued

Area state and crop year	Spinning lots tested	Classification		Fiber length		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Potential
		Grade	Staple	2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Grayness	Yellowness	Composite		
SOUTH CENTRAL (Continued)	No.	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
Long staple:															
Mississippi															
1975	3	90	37.0	1.15	43	3.8	89	24	5.6	4.1	2	2	99	8.8	69
1976	3	94	35.0	1.12	42	3.7	91	26	5.8	3.6	2	2	100	6.8	57
SOUTHWEST															
Short staple:															
Central Texas															
1975	15	95	32.0	1.01	45	4.4	88	23	5.9	3.0	2	4	100	5.7	46
1976	15	87	31.0	.97	44	4.4	85	20	6.0	3.5	3	4	95	7.4	36
Northwest Texas															
1975	38	90	30.3	.94	45	3.4	84	21	6.5	4.0	2	4	99	6.8	42
1976	41	89	30.8	.95	45	4.2	84	21	7.0	3.4	3	4	96	6.8	41
Oklahoma															
1975	9	90	31.2	.98	44	3.7	83	21	6.7	3.8	2	4	98	6.4	46
1976	3	89	30.7	.96	46	5.3	86	21	6.7	3.6	2	3	96	7.2	36
Medium staple:															
South Texas															
1975	12	92	34.2	1.08	45	4.3	81	22	6.9	2.9	2	3	97	4.7	60
1976	18	92	33.6	1.06	46	4.2	81	22	6.6	3.0	1	3	101	6.0	58
Central Texas															
1975	9	95	33.9	1.07	44	4.2	82	22	6.5	3.0	1	3	101	4.7	56
1976	9	89	33.7	1.09	44	4.0	81	22	6.7	3.5	2	3	99	6.8	55
Northwest Texas															
1975	15	88	32.7	1.02	41	2.9	86	23	6.3	4.7	2	3	100	8.2	52
1976	12	85	33.2	1.03	44	3.6	84	23	6.9	4.1	3	5	95	7.9	49
WEST															
Medium staple:															
Arizona															
1975	15	99	35.1	1.10	44	4.4	86	24	6.7	2.4	1	3	103	5.7	57
1976	25	97	34.8	1.09	44	4.5	84	22	6.9	2.2	1	3	102	6.0	49
California															
1975	54	97	35.4	1.12	46	4.0	94	27	5.9	2.3	1	3	103	5.4	72
1976	48	96	35.6	1.12	46	4.0	92	26	6.2	2.3	1	2	101	5.7	74
Long staple:															
New Mexico															
1975	12	97	36.3	1.16	45	3.3	93	26	6.0	3.3	0	2	104	8.8	89
1976	3	94	37.0	1.19	47	3.5	88	27	6.4	4.2	1	2	103	9.5	99
West Texas															
1975	3	98	37.0	1.17	44	3.3	94	25	5.7	2.7	1	2	103	8.2	91
1976	2	92	36.0	1.18	45	3.2	86	28	6.2	3.6	1	1	102	8.6	98

Table 2.--Continued

Area state and crop year	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn		
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Blue-ness	Com-posite
SOUTH CENTRAL (Continued)	No.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
Long staple:			50s		50s		50s		50s						
Mississippi															
1975	3	114	40	5.5	4.4	103	77	22	17	86.2	3.0	108	27.2	25.7	102
1976	3	109	36	5.3	3.8	97	73	20	16	83.0	3.0	101	27.5	25.9	103
SOUTHWEST															
Short staple:			8s		8s		8s		8s						
Central Texas															
1975	15	103	328	6.1	7.1	117	127	11	20	86.4	3.3	107	26.8	26.8	108
1976	15	85	275	5.4	6.5	110	127	14	20	83.5	3.3	100	27.8	26.1	103
Northwest Texas															
1975	38	96	301	6.3	7.4	104	123	20	41	83.8	3.5	100	26.9	25.4	102
1976	41	90	281	6.0	7.3	109	124	15	28	82.9	3.2	99	26.8	26.3	105
Oklahoma															
1975	9	99	306	6.6	7.9	107	123	17	38	83.3	3.2	100	25.8	26.0	106
1976	3	83	264	5.3	6.5	110	130	12	21	82.6	3.0	99	27.0	26.3	105
Medium staple:			50s		50s		50s		50s						
South Texas															
1975	12	103	35	6.0	4.6	102	82	23	18	86.5	3.2	108	27.1	26.5	106
1976	18	105	36	6.0	4.5	101	81	18	14	84.5	3.0	104	27.2	26.6	106
Central Texas															
1975	9	102	33	5.9	4.2	93	74	20	17	86.0	3.1	107	27.2	26.5	105
1976	9	101	33	6.1	4.4	90	72	24	18	84.3	2.9	104	27.7	26.3	104
Northwest Texas															
1975	15	104	33	6.1	4.3	72	63	45	37	84.5	3.5	102	27.7	24.9	98
1976	12	102	33	6.1	4.6	81	67	36	28	83.4	3.2	100	27.2	25.8	103
WEST															
Medium staple:															
Arizona															
1975	15	107	36	5.9	4.4	95	76	20	16	85.0	3.1	105	26.3	26.4	107
1976	25	97	30	5.8	4.1	91	70	18	15	83.6	2.7	103	27.4	26.3	104
California															
1975	54	128	46	6.0	4.7	93	73	23	17	84.7	3.2	104	27.2	25.5	102
1976	48	128	45	6.1	4.7	87	72	20	16	83.7	2.9	103	27.4	26.0	103
Long staple:															
New Mexico															
1975	12	138	52	6.2	5.0	81	65	43	33	85.3	3.2	105	26.2	25.7	105
1976	3	145	53	6.5	5.4	80	67	42	31	83.9	2.9	103	26.7	26.0	105
West Texas															
1975	3	141	52	5.9	4.8	83	70	31	26	84.0	3.2	102	26.6	25.7	104
1976	2	141	54	6.5	5.4	90	65	25	18	82.8	2.8	100	27.2	25.6	102

Table 3.--Cotton: Average results of fiber and carded yarn processing tests by grade and staple combinations for American upland samples from selected gin points, crop of 1976

Staple group, area, grade and staple			Spinning lots tested	Fiber length		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Potential
				2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Grayness	Yellowness	Composite		
Name	Code	32d in.	No.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
SHORT STAPLE GROUP															
Southwest															
Mid Lt Sp	32	30	3	.90	45	4.6	86	20	6.1	2.4	2	4	98	6.0	33
		31	3	.95	45	5.1	88	21	7.1	3.0	2	3	98	6.3	40
SLM Lt Sp	42	30	11	.92	45	4.5	86	20	6.6	3.5	3	4	96	7.4	34
		31	13	.97	45	4.5	85	21	6.7	3.4	2	4	97	6.9	39
LM Lt Sp	52	32	4	.97	46	3.5	81	21	7.2	4.3	3	4	95	7.2	51
MEDIUM STAPLE GROUP															
Southeast															
SLM	41	33	3	1.04	45	4.5	83	23	7.2	2.5	2	3	99	7.1	47
		34	9	1.08	45	4.7	84	23	6.9	2.5	1	3	100	5.8	53
		35	7	1.11	46	4.6	87	24	6.1	2.8	2	3	99	5.9	60
SLM Lt Sp	42	33	4	1.03	45	4.5	82	22	7.0	3.4	2	4	98	6.8	51
		34	7	1.06	45	4.6	85	23	6.9	2.9	3	4	94	6.5	57
SLM Sp	43	34	3	1.08	45	4.0	83	22	6.7	3.1	3	4	95	6.3	67
LM	51	35	6	1.06	46	4.6	86	23	6.6	4.4	3	3	94	7.2	56
South Central															
Mid	31	34	5	1.08	45	4.2	88	23	7.6	2.1	1	2	104	5.6	58
		35	5	1.11	45	4.5	89	25	7.6	2.0	0	2	103	5.5	60
SLM	41	33	7	1.02	44	4.2	87	23	6.7	2.9	2	2	99	6.6	47
		34	47	1.07	44	4.3	88	23	6.7	2.7	1	2	101	6.2	54
		35	31	1.10	44	4.1	87	24	6.9	2.8	1	2	101	6.1	59
		36	3	1.13	45	4.1	88	24	6.9	2.8	1	2	101	5.7	65
SLM Lt Sp	42	34	3	1.06	44	3.9	86	23	6.7	3.0	2	3	98	6.1	60
LM	51	33	3	1.01	44	3.7	91	23	5.8	4.7	3	2	94	6.9	49
		34	7	1.06	44	4.2	87	23	6.1	4.2	2	2	96	7.1	56
		35	5	1.08	44	4.0	88	23	6.6	4.4	2	1	97	6.9	55
Southwest															
SLM	41	33	5	1.03	43	3.6	79	21	6.9	2.3	1	2	102	5.7	54
		34	5	1.06	47	4.7	84	22	6.2	2.5	1	3	101	5.9	59
		35	5	1.13	46	4.2	81	23	7.2	3.0	1	3	101	5.8	65

Table 3.--Continued

Staple group, area, grade and staple			Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn		
				22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Blue-ness	Com-posite
Name	Code	32d in.	No.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
SHORT STAPLE GROUP																	
					8s		8s		8s		8s						
Southwest																	
Mid Lt Sp	32	30	3	86	284	5.7	6.8	117	127	10	16	83.3	3.2	100	26.7	26.6	107
		31	3	87	273	5.8	7.1	113	127	11	19	82.1	2.8	99	26.7	26.7	107
SLM Lt Sp	42	30	11	83	267	5.5	6.7	110	125	13	22	82.7	3.2	99	27.4	26.1	103
		31	13	86	275	5.7	6.9	109	128	12	20	83.3	3.2	101	27.3	26.1	104
LM Lt Sp	52	32	4	100	302	6.5	7.8	102	120	20	38	83.5	3.2	101	26.5	26.5	107
MEDIUM STAPLE GROUP																	
					50s		50s		50s		50s						
Southeast																	
SLM	41	33	3	96	28	6.1	4.0	90	70	29	19	83.0	3.5	99	26.9	26.4	105
		34	9	103	33	5.8	4.3	98	79	20	16	82.9	3.1	100	27.0	26.4	106
		35	7	112	37	5.8	4.4	99	77	20	17	83.4	2.9	102	27.5	26.1	103
SLM Lt Sp	42	33	4	96	29	5.8	4.0	100	80	20	16	82.6	3.5	98	26.8	26.2	105
		34	7	103	33	5.8	4.2	101	84	16	13	82.5	4.0	95	27.3	26.1	104
SLM Sp	43	34	3	113	39	6.2	4.9	100	80	22	18	82.9	3.5	98	26.7	26.8	108
LM	51	35	6	107	34	5.7	4.2	102	83	18	14	82.4	3.6	96	27.4	26.0	104
South Central																	
Mid	31	34	5	111	36	6.4	4.5	102	82	13	12	83.6	2.9	102	26.8	26.9	108
		35	5	114	37	6.6	4.8	102	80	13	11	83.7	2.6	104	27.0	26.7	107
SLM	41	33	7	99	31	5.7	4.0	101	81	15	12	82.7	3.0	100	27.5	26.0	103
		34	47	105	33	5.8	4.2	101	79	16	13	83.3	2.9	101	27.2	26.4	105
		35	31	112	36	6.2	4.5	96	76	17	14	83.4	2.8	102	27.1	26.6	106
		36	3	119	39	6.5	5.2	93	77	18	14	84.0	3.2	102	26.7	26.8	108
SLM Lt Sp	42	34	3	105	35	6.0	4.4	90	67	27	19	82.8	3.0	100	26.4	26.6	107
LM	51	33	3	103	33	5.6	4.2	93	70	22	18	83.7	3.0	102	28.3	25.6	100
		34	7	104	33	5.7	4.1	93	77	22	17	82.1	3.1	98	27.5	26.1	103
		35	5	106	34	5.8	4.2	98	76	18	14	82.5	2.8	100	27.6	26.2	103
Southwest																	
SLM	41	33	5	99	33	6.1	4.5	88	66	20	17	85.5	2.8	107	27.3	26.4	105
		34	5	105	36	5.7	4.3	114	92	11	10	83.5	3.2	101	27.2	26.7	107
		35	5	112	38	6.4	4.9	96	78	20	15	84.4	2.8	104	27.2	26.5	106

Table 3.--Cotton: Average results of fiber and carded yarn processing tests by grade and staple combinations for American upland samples from selected gin points, crop of 1976--(Continued)

Staple group, area, grade and staple			Spinning lots tested	Fiber length		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Potential
				2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Grayness	Yellowness	Composite		
Name	Code	32d in.	No.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
MEDIUM STAPLE GROUP (Continued)															
Southwest															
SLM Lt Sp	42	34	3	1.09	46	4.2	82	23	6.8	3.9	2	4	99	6.8	59
West															
Mid	31	34	7	1.08	43	4.5	84	22	6.4	1.9	1	3	103	5.5	47
		35	8	1.09	44	4.4	84	23	7.0	2.0	1	3	104	5.6	54
		36	6	1.13	46	4.2	89	26	6.4	1.8	0	3	104	5.3	71
SLM+	40	36	7	1.12	46	4.0	94	27	6.1	2.1	1	2	103	5.4	77
SLM	41	35	18	1.11	44	4.1	88	25	6.5	2.3	1	3	100	6.0	64
		36	20	1.14	46	4.0	92	27	6.3	2.5	1	3	101	5.8	77
LONG STAPLE GROUP															
Southeast															
SLM	41	34	3	1.10	43	4.3	85	24	6.3	2.7	1	2	101	7.2	56
		36	4	1.18	46	4.4	88	26	6.6	2.4	2	2	100	5.9	74
South Central															
SLM	41	35	3	1.12	42	3.7	91	26	5.8	3.6	2	2	100	6.8	57

Table 3.--Continued

Staple group, area, grade and staple			Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn		
				22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Blue-ness	Com-posite
Name	Code	32d in.	No.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
MEDIUM STAPLE (Continued)																	
Southwest																	
SLM Lt Sp	42	34	3	109	37	6.3	4.7	90	73	30	21	84.0	3.3	101	26.5	27.0	109
West																	
Mid	31	34	7	94	29	5.4	3.8	91	69	16	14	83.4	2.8	102	27.4	26.3	104
		35	8	104	34	5.9	4.4	85	70	19	15	84.1	2.6	104	27.5	26.3	104
		36	6	126	44	6.2	4.7	95	75	16	14	83.6	2.8	103	27.2	26.3	105
SLM+	40	36	7	134	47	6.1	4.8	90	77	19	15	84.1	3.0	103	27.2	26.3	105
SLM	41	35	18	115	38	6.0	4.4	85	66	22	17	83.6	2.8	103	27.6	26.0	103
		36	20	131	46	6.1	4.8	90	74	20	15	83.6	2.9	102	27.4	25.9	103
LONG STAPLE GROUP																	
Southeast																	
SLM	41	34	3	104	34	5.5	4.1	107	83	20	14	83.6	2.7	103	27.4	26.1	104
		36	4	123	44	5.9	4.7	105	90	20	14	82.6	3.3	98	27.0	26.2	105
South Central																	
SLM	41	35	3	109	36	5.3	3.8	97	73	20	16	83.0	3.0	101	27.5	25.9	103

Table 4.--Cotton: Average of classification, fiber tests, and yarn processing tests by variety for samples from selected 100 percent one-variety gin points, crop of 1976

Processing group, variety, and state	Spinning lots tested	Classification		Fiber length		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Potential
		Grade	Staple	2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Grayness	Yellowness	Composite		
SHORT STAPLE	No.	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
Lankart 611															
Central Texas	3	89	30.7	.95	44	4.0	81	20	6.6	3.8	3	4	95	7.6	37
Northwest Texas	3	80	31.3	.96	46	4.1	80	21	7.9	4.3	3	3	94	7.2	43
Lankart 57															
Central Texas	3	92	30.0	.94	43	4.4	83	19	5.8	3.2	3	4	95	7.2	32
Northwest Texas	3	89	30.7	.94	46	5.0	86	20	6.9	3.1	2	3	96	6.8	37
Lankart LX571															
Central Texas	6	84	31.5	1.00	44	4.6	86	21	6.0	3.9	3	4	94	7.8	41
Northwest Texas	6	90	31.7	.98	45	4.8	88	21	6.4	2.8	2	3	97	6.5	41
MEDIUM STAPLE															
Acala SJ-2															
California	18	95	35.7	1.13	46	3.9	91	26	6.2	2.3	1	2	101	5.8	76
Acala SJ-4															
California	6	94	36.0	1.12	46	3.9	96	27	6.1	2.4	1	3	102	5.6	79
Auburn M															
Missouri	3	91	34.7	1.08	44	3.6	84	23	6.9	3.5	2	2	99	6.1	59
Coker 201															
North Carolina	3	89	34.0	1.03	47	4.7	88	22	6.5	2.9	3	4	95	6.8	52
South Carolina	3	96	34.7	1.11	46	4.7	87	23	6.0	2.6	2	4	98	5.8	54
Coker 312															
Northwest Texas	3	79	35.0	1.11	41	3.2	83	23	6.6	4.9	4	6	91	8.4	51
Coker 417															
South Carolina	2	89	34.0	1.05	44	4.4	90	24	6.2	3.6	4	4	92	6.6	60
Coker 5110															
Northwest Texas	3	82	34.3	1.09	41	3.2	81	23	6.6	5.3	3	5	95	8.1	54
Deltapine 16															
Arkansas	9	95	34.6	1.10	44	4.1	88	24	7.8	2.8	1	2	102	6.1	61
Louisiana	9	95	34.8	1.11	44	4.3	88	24	7.4	2.5	1	2	102	5.5	60
Mississippi	12	92	34.8	1.11	43	3.9	87	24	7.3	3.2	1	2	101	6.0	62
Deltapine 25															
Louisiana	3	94	34.0	1.09	46	4.7	91	23	6.4	2.6	1	2	102	5.8	59
Deltapine 55															
Mississippi	3	94	34.7	1.08	44	4.2	92	23	6.0	3.0	2	2	100	5.9	53

Table 4.--Continued

Processing group, variety, and state	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn		
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
	No.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
SHORT STAPLE							Carded Yarns								
Lankart 611			8s		8s		8s		8s						
Central Texas	3	85	276	5.8	7.2	110	127	13	18	83.5	3.3	100	27.6	26.2	104
Northwest Texas	3	90	276	6.5	7.5	100	120	21	40	82.4	3.2	98	27.3	26.3	105
Lankart 57															
Central Texas	3	79	268	5.4	6.6	107	127	13	16	84.3	3.3	103	27.8	26.4	104
Northwest Texas	3	84	265	5.6	6.6	107	130	9	20	82.4	2.9	100	27.0	26.0	104
Lankart LX571															
Central Texas	6	90	284	5.4	6.5	112	128	15	23	83.3	3.4	100	27.9	26.1	102
Northwest Texas	6	88	276	5.4	6.7	108	125	11	22	81.8	3.4	96	27.5	26.2	104
MEDIUM STAPLE															
Acala SJ-2			50s		50s		50s		50s						
California	18	130	45	6.2	4.8	86	69	21	16	83.9	2.9	103	27.4	26.0	103
Acala SJ-4															
California	6	136	48	6.2	4.8	88	70	21	17	83.8	2.8	103	27.5	25.8	102
Auburn M															
Missouri	3	110	36	6.5	4.6	83	73	24	18	83.2	3.1	100	27.0	26.2	105
Coker 201															
North Carolina	3	97	30	5.5	3.8	107	90	11	10	81.8	4.5	92	26.6	25.9	104
South Carolina	3	105	34	5.6	4.1	97	77	23	19	83.2	2.9	101	27.1	26.6	106
Coker 312															
Northwest Texas	3	105	35	6.1	4.6	70	60	53	42	83.5	3.3	101	27.0	25.7	103
Coker 417															
South Carolina	2	112	37	5.6	4.2	110	85	18	12	83.0	4.1	96	27.8	26.2	104
Coker 5110															
Northwest Texas	3	110	36	6.5	4.7	70	60	48	35	83.6	3.5	100	26.9	25.9	104
Deltapine 16															
Arkansas	9	114	37	6.4	4.7	97	78	18	15	83.4	2.9	102	26.7	26.8	108
Louisiana	9	111	37	6.4	4.6	99	77	14	11	83.6	2.7	103	27.2	26.4	105
Mississippi	12	114	38	6.4	4.7	94	74	20	15	83.5	2.7	103	27.3	26.5	105
Deltapine 25															
Louisiana	3	113	37	5.9	4.3	107	87	17	13	83.3	2.8	102	27.0	26.6	107
Deltapine 55															
Mississippi	3	107	34	5.6	3.9	103	80	12	8	83.0	2.5	102	27.6	26.0	103

Table 4.--Cotton: Average of classification, fiber tests, and yarn processing tests by variety for samples from selected 100 percent one-variety gin points, crop of 1976--Continued

Processing group, variety, and state	Spinning lots tested	Classification		Fiber length		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer non-lint	Color of raw stock			Picker & card waste	Spinning Potential
		Grade	Staple	2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Gray-ness	Yellow-ness	Com-posite		
MEDIUM STAPLE (Continued)	No.	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	No.	No.	Index	Pct.	No.
Deltapine 61															
Louisiana	3	96	34.7	1.08	46	4.9	85	24	7.6	1.9	1	2	102	6.0	57
Mississippi	3	94	34.3	1.11	44	4.2	86	25	7.8	2.5	1	2	101	5.3	71
Arizona	3	94	35.0	1.10	44	5.0	86	23	6.7	2.2	1	3	101	5.9	50
California	3	99	34.7	1.08	44	4.8	85	24	6.6	1.9	0	2	103	5.7	49
Dixie King III															
Georgia	3	85	35.0	1.04	47	4.4	87	24	6.8	4.6	3	3	94	6.8	62
Mississippi	2	85	33.0	1.02	44	4.0	96	24	5.2	4.4	3	2	92	6.7	50
McNair 612															
North Carolina	3	92	35.7	1.13	46	4.6	87	25	6.2	4.8	2	2	98	6.9	66
South Carolina	3	90	34.0	1.08	45	4.9	89	23	6.1	2.8	2	3	98	6.0	56
Stoneville 213															
Alabama	3	91	33.0	1.04	45	4.5	81	22	7.2	2.6	2	4	98	7.1	50
Arkansas	18	94	34.7	1.09	44	4.3	87	23	6.5	2.8	1	2	100	6.4	54
Louisiana	6	94	34.0	1.08	45	4.8	89	23	5.8	2.8	1	2	101	6.4	52
Mississippi	12	91	33.8	1.04	45	4.6	90	23	6.2	3.5	2	2	97	6.8	51
Missouri	6	90	34.2	1.05	43	3.6	89	23	6.4	3.8	2	3	98	7.1	55
South Texas	3	96	33.7	1.04	48	5.0	80	22	6.2	2.1	1	3	100	6.0	53
Stoneville 256															
Mississippi	3	94	34.0	1.07	44	4.7	90	22	5.1	2.8	2	3	99	7.0	49
Arizona	3	98	34.0	1.10	42	4.1	85	21	5.4	2.2	1	3	103	5.3	47
Stoneville 603															
Alabama	3	92	33.3	1.02	45	4.4	89	23	6.2	3.4	2	3	98	6.6	45
Stoneville 731N															
Arkansas	3	91	34.0	1.04	42	3.5	88	21	5.6	3.0	1	3	101	8.3	46
Tamcot SP37															
South Texas	3	94	33.0	1.03	43	3.5	76	21	7.1	2.2	1	2	103	5.4	55
Central Texas	3	77	31.3	1.02	42	3.4	83	21	6.3	5.7	3	3	96	9.5	45
LONG STAPLE															
Coker 310															
Georgia	3	91	35.0	1.15	44	4.5	85	24	6.5	4.1	2	3	96	7.0	61
North Carolina	3	94	35.7	1.15	46	4.4	89	26	6.7	2.4	2	3	99	6.1	73
South Carolina	3	92	36.0	1.18	45	4.3	87	25	6.5	3.1	2	3	99	6.3	73
Mississippi	3	94	35.0	1.12	42	3.7	91	26	5.8	3.6	2	2	100	6.8	57
EXTRA LONG STAPLE - American Pima															
Pima S-5				Array											
Arizona	6	4	45.0	1.50	32	3.7	105	35	7.4	3.0	4	5	90	6.9	
New Mexico	3	3	46.0	1.49	29	3.6	101	35	7.7	1.6	3	5	93	6.1	

Table 4.--Continued

Processing group, variety, and state	Spinning lots tested	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color 22s bleached yarn			Color 22s dyed yarn		
		22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	22s or 27 tex	Second number	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Blue-ness	Com-posite
MEDIUM STAPLE (Continued)	No.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	-b	Index
Deltapine 61															
Louisiana	3	110	36	6.2	4.5	103	80	15	13	82.8	2.7	101	27.2	26.4	105
Mississippi	3	121	41	6.6	4.9	103	87	13	11	84.2	2.6	105	26.9	27.0	108
Arizona	3	101	32	5.7	3.9	97	73	19	16	83.1	3.0	101	27.7	25.9	102
California	3	98	31	5.4	3.8	87	77	19	16	83.4	2.6	103	28.0	25.8	101
Dixie King III															
Georgia	3	114	37	5.9	4.4	107	90	12	10	82.0	4.3	93	27.3	25.9	103
Mississippi	2	105	34	5.2	3.7	105	75	15	12	83.6	3.0	102	28.6	25.7	100
McNair 612															
North Carolina	3	119	40	5.7	4.6	93	73	28	20	82.8	3.4	98	26.9	26.6	106
South Carolina	3	106	35	5.7	4.3	93	83	19	15	81.9	3.2	97	27.1	26.3	105
Stoneville 213															
Alabama	3	92	27	5.7	3.9	100	77	21	17	83.1	3.6	99	27.1	26.2	105
Arkansas	18	107	34	5.9	4.3	96	76	17	14	83.1	3.1	100	26.9	26.5	106
Louisiana	6	103	32	5.6	3.8	102	80	18	12	82.5	3.1	99	27.0	26.6	106
Mississippi	12	101	32	5.5	3.9	106	85	13	11	82.6	3.0	100	27.6	26.2	104
Missouri	6	106	34	6.0	4.3	95	70	20	16	82.7	3.2	99	27.2	26.1	104
South Texas	3	102	35	5.7	4.3	117	97	12	10	83.2	3.1	101	27.3	26.5	106
Stoneville 256															
Mississippi	3	96	30	5.0	3.4	107	87	11	9	82.8	3.0	100	27.6	25.8	102
Arizona	3	88	27	4.9	3.4	87	60	19	16	83.5	3.0	102	27.1	26.4	105
Stoneville 603															
Alabama	3	93	27	5.3	3.6	93	77	22	17	82.1	3.5	96	26.9	25.9	104
Stoneville 731N															
Arkansas	3	94	30	5.4	3.9	77	60	31	26	83.1	3.1	100	27.5	25.7	102
Tamcot SP37															
South Texas	3	97	33	6.3	4.7	80	60	24	19	85.9	2.8	108	27.2	26.3	105
Central Texas	3	90	27	5.5	3.7	77	63	33	27	84.2	3.1	102	28.2	25.8	101
LONG STAPLE															
Coker 310															
Georgia	3	113	38	5.5	4.3	107	90	17	14	82.2	4.1	94	27.2	26.3	105
North Carolina	3	121	43	5.8	4.8	107	93	16	12	83.2	3.2	100	27.1	26.3	105
South Carolina	3	121	43	6.0	4.7	97	80	26	20	82.7	3.2	99	26.9	26.2	105
Mississippi	3	109	36	5.3	3.8	97	73	20	16	83.0	3.0	101	27.5	25.9	103
EXTRA LONG STAPLE															
Pima S-5		50s	80s	50s	80s	50s	80s	50s	80s						
Arizona	6	66	35	5.4	4.6	108	107	1	1	83.8	3.4	101	27.8	26.3	104
New Mexico	3	67	36	5.6	4.6	103	110	2	2	82.3	3.4	97	26.8	26.7	107

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1976

State, Production Area, Chronological sampling and Classification		Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST													
CENTRAL TEXAS													
BRANDON	LANKART 611				100 PERCENT								
SLM LT SP 42	31	0.98	45	4.3	79	20	6.8	2.2	3.1	2	4	98	6.8
SLM LT SP 42	31	0.97	43	3.9	80	21	6.7	3.1	4.7	3	4	96	8.1
SLM LT SP 42	30	0.91	44	3.8	84	20	6.4	2.4	3.6	3	3	91	8.0
ITALY	LANKART 57				100 PERCENT								
M LT SP 32	30	0.92	42	4.4	82	19	5.6	1.7	2.5	2	4	97	6.7
SLM LT SP 42	30	0.95	43	4.5	82	19	5.9	2.7	3.9	3	4	94	8.2
SLM LT SP 42	30	0.95	43	4.3	84	20	6.0	2.3	3.2	3	4	95	6.8
ITASCA	LANKART LX571				100 PERCENT								
SLM LT SP 42	31	0.98	45	4.6	87	21	5.4	2.2	2.9	2	4	98	7.9
1/ LM LT SP 52	30	0.96	45	4.9	85	21	5.7	2.8	4.2	3	4	95	8.2
SLM LT SP 42	30	0.94	44	5.0	92	19	6.0	3.2	3.8	3	3	94	7.3
TEMPLE	LANKART 57				95 PERCENT								
SLM LT SP 42	32	0.96	47	4.8	89	21	5.8	1.4	2.2	3	4	95	6.7
SLM LT SP 42	31	0.98	45	4.6	87	20	5.9	2.3	3.3	3	4	93	6.9
SLM LT SP 42	31	0.97	44	4.6	87	21	5.8	1.9	2.6	3	4	93	6.3
WACO	LANKART LX571				100 PERCENT								
1/ LM LT SP 52	33	1.08	43	3.8	82	21	6.4	2.6	3.8	4	4	89	6.8
1/ LM LT SP 52	33	1.06	45	4.6	84	22	6.4	3.7	5.0	3	3	95	8.3
2/ LM 51	32	1.00	43	4.6	84	22	5.9	2.6	3.8	3	3	95	8.4
NORTHWEST TEXAS													
ANSON	LANKART 611				100 PERCENT								
1/ LM LT SP 52	31	0.97	46	4.3	81	21	8.1	2.5	3.3	3	3	95	7.0
LM LT SP 52	32	0.97	47	4.2	79	20	8.1	3.4	4.6	3	3	95	7.6
1/ LM LT SP 52	31	0.94	45	3.8	79	21	7.6	3.6	4.9	3	3	92	7.1
BURKBURNETT	LANKART LX571				100 PERCENT								
SLM 41	31	0.95	46	5.1	92	21	5.4	1.6	1.8	2	3	99	6.8
2/ LM 51	33	1.04	46	5.0	87	22	6.7	2.8	3.6	2	3	98	6.5
SLM LT SP 42	32	0.98	47	5.2	86	21	6.8	2.1	2.6	2	3	97	6.2

1/ Reduced from 42 because of bark
2/ Reduced from 41 because of bark

Table 5a.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1976

State, Production Area Chronological sampling and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin-ning Poten-tial	Color - 22s gray yarn			Color-22s blchd.yarn			Color - 22s dyed yarn		
Grade		Staple	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name	Code	32d in.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH WEST																				
CENTRAL TEXAS																				
BRANDON				LANKART 611					100 PERCENT											
SLM LT SP	42	31	307	89	7.7	6.0	130	120	11	9	42	67.6	12.1	95	84.2	3.5	101	26.7	26.8	108
SLM LT SP	42	31	272	91	7.5	6.1	130	100	20	14	40	66.4	12.0	92	84.6	3.0	104	27.4	26.2	104
SLM LT SP	42	30	250	75	6.4	5.3	120	110	22	16	29	64.9	11.5	87	81.7	3.4	96	28.7	25.7	99
ITALY				LANKART 57					100 PERCENT											
M LT SP	32	30	283	78	6.8	5.5	130	110	14	10	31	66.5	12.0	92	86.2	3.1	108	27.4	26.5	105
SLM LT SP	42	30	273	86	6.8	5.5	130	110	17	14	37	64.4	12.2	88	83.5	3.7	99	27.8	26.6	105
SLM LT SP	42	30	249	74	6.3	5.2	120	100	18	15	28	66.2	11.7	90	83.1	3.0	101	28.3	26.2	102
ITASCA				LANKART LX571					100 PERCENT											
SLM LT SP	42	31	296	83	6.4	5.1	130	110	22	17	35	67.0	12.2	94	84.5	3.3	103	27.7	26.1	103
1/ LM LT SP	52	30	273	86	5.9	5.1	130	110	21	15	34	66.0	12.2	92	81.6	3.3	96	27.4	25.9	103
SLM LT SP	42	30	264	82	6.0	4.9	130	110	21	12	32	66.8	11.6	91	82.8	3.7	97	28.0	25.8	101
TEMPLE				LANKART 57					95 PERCENT											
SLM LT SP	42	32	255	80	5.7	4.8	120	110	21	15	31	65.4	12.1	90	83.3	3.3	100	28.5	25.7	100
SLM LT SP	42	31	262	81	6.0	5.1	130	120	20	12	33	64.9	11.8	88	83.4	3.3	100	27.7	25.5	101
SLM LT SP	42	31	264	78	5.9	4.8	130	100	17	14	31	64.8	11.6	87	83.3	3.4	100	27.5	26.2	104
WACO				LANKART LX571					100 PERCENT											
1/ LM LT SP	52	33	297	97	7.2	5.9	130	110	22	17	49	64.6	11.8	87	83.9	3.7	100	27.8	26.4	104
1/ LM LT SP	52	33	293	96	6.9	5.4	120	110	27	14	45	66.2	11.4	89	83.8	3.0	102	28.0	26.2	103
2/ LM	51	32	284	96	6.7	6.0	130	120	27	16	50	65.4	11.0	86	83.2	3.3	100	28.3	26.0	101
NORTHWEST TEXAS																				
ANSON				LANKART 611					100 PERCENT											
1/ LM LT SP	52	31	270	88	7.7	6.7	120	100	36	19	42	66.0	10.8	87	82.5	3.3	98	27.5	26.2	104
LM LT SP	52	32	284	93	7.5	6.4	120	100	44	24	46	65.9	11.0	87	83.0	3.0	100	27.2	26.5	106
1/ LM LT SP	52	31	274	88	7.3	6.4	120	100	41	20	41	65.9	10.8	87	81.6	3.3	96	27.1	26.3	105
BURK8URNETT				LANKART LX571					100 PERCENT											
SLM	41	31	269	84	5.8	4.8	130	110	22	10	36	66.6	11.1	89	81.3	3.9	93	27.1	26.5	106
2/ LM	51	33	285	95	7.9	5.6	130	110	25	15	45	66.8	10.8	88	81.6	3.0	97	27.2	26.6	106
SLM LT SP	42	32	282	90	6.8	5.6	120	110	19	12	40	66.8	11.2	90	82.5	2.9	100	27.0	26.5	106

1/ Reduced from 42 because of bark
2/ Reduced from 41 because of bark

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1976

State, Production Area, Chronological sampling and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST														
NORTHWEST TEXAS														
HART			STRIPPER 31				80 PERCENT							
M SP	33	30	0.93	45	3.3	83	21	7.2	2.7	4.1	4	6	90	7.5
SLM SP	43	30	0.97	45	3.3	83	22	7.0	3.2	4.2	4	6	93	7.7
M SP	33	30	0.91	44	3.4	89	22	7.1	2.3	3.3	3	5	94	7.1
LAMESA			8LIGHTMASTER A5				70 PERCENT							
M LT SP	32	31	0.95	45	4.6	87	21	6.4	2.7	3.7	2	3	98	6.8
1/ SLM LT SP	42	31	0.96	46	4.1	80	20	7.5	2.7	3.8	1	4	101	6.8
1/ SLM LT SP	42	31	0.97	44	3.4	84	20	8.2	2.6	3.9	2	4	101	7.1
LOCKNEY			MORCOT M70				80 PERCENT							
M LT SP	32	30	0.90	47	4.8	89	21	6.1	1.7	2.2	2	4	100	5.9
2/ LM LT SP	52	32	0.95	46	3.6	83	20	6.4	2.6	3.5	3	4	96	7.1
2/ LM LT SP	52	32	0.97	45	3.1	82	22	6.8	4.2	5.7	3	4	95	6.9
LOCKNEY			PAYMASTER 18				90 PERCENT							
M LT SP	32	29	0.85	48	5.2	83	19	6.4	1.6	2.4	2	4	97	7.6
SLM SP	43	30	0.92	47	3.9	82	20	6.7	2.4	3.8	3	5	93	8.1
3/ SLM SP	43	29	0.97	44	3.1	76	21	7.1	2.7	3.9	4	6	86	7.4
LOOP			PAYMASTER 18				90 PERCENT							
4/ SLM LT SP	42	29	0.91	47	5.1	84	21	6.1	2.0	2.9	2	4	99	7.1
SLM	41	29	0.87	47	5.4	83	19	6.4	1.6	2.3	1	4	101	6.9
1/ SLM LT SP	42	30	0.88	47	4.8	87	19	6.8	1.7	2.7	2	3	100	7.1
LORENZO			PAYMASTER 909				90 PERCENT							
M SP	33	31	0.99	42	3.1	83	21	6.3	1.5	2.6	3	5	97	5.5
M SP	33	32	1.00	44	3.1	81	22	7.7	1.8	3.0	3	5	95	6.1
SLM SP	43	32	0.98	44	3.0	76	22	7.9	2.8	3.8	3	5	93	6.0
LUBBOCK			PAYMASTER 909				75 PERCENT							
M SP	33	31	0.97	47	4.0	80	22	7.4	2.3	3.4	3	5	96	6.1
2/ LM LT SP	52	32	1.00	44	3.1	80	22	7.4	2.4	3.3	3	5	94	7.3
3/ SLM SP	43	31	0.98	44	3.1	80	22	7.6	2.3	3.7	3	5	97	5.6

1/ Reduced from 32 because of bark
2/ Reduced from 42 because of bark
3/ Reduced from 33 because of bark
4/ Reduced from 32 because of grass

Table 5a.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1976

State, Production Area Chronological sampling and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin-ning Poten-tial	Color - 22s gray yarn			Color-22s blchd.yarn			Color - 22s dyed yarn		
Grade	Staple	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name Code	32d in.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH WEST																			
NORTHWEST TEXAS																			
HART			STRIPPER 31						80 PERCENT										
M SP	33 30	279	89	7.4	6.3	120	110	36	21	40	57.9	14.0	80	84.0	3.7	100	26.4	25.7	104
SLM SP	43 30	303	99	7.8	6.5	130	110	24	16	46	59.7	13.8	83	84.5	3.5	102	26.6	26.2	106
M SP	33 30	285	93	7.1	6.0	130	110	22	14	43	61.9	13.2	86	82.2	3.4	97	26.8	26.3	106
LAMESA			BLIGHTMASTER A5						70 PERCENT										
M LT SP	32 31	266	84	7.4	5.9	130	110	23	14	35	69.5	11.1	96	82.8	2.7	101	26.9	26.7	107
1/ SLM LT SP	42 31	279	90	8.5	6.7	130	120	17	10	42	68.2	11.5	94	83.6	2.8	103	26.7	26.4	106
1/ SLM LT SP	42 31	284	92	8.1	6.9	120	100	27	17	47	67.4	12.0	94	84.8	3.2	104	27.2	25.5	102
LOCKNEY			MORCOT M70						80 PERCENT										
M LT SP	32 30	279	87	6.8	5.7	120	120	14	10	33	66.7	12.2	93	81.4	3.2	96	26.3	26.3	107
2/ LM LT SP	52 32	308	103	7.7	6.2	120	110	36	17	51	62.5	13.0	86	82.6	3.2	99	26.0	26.8	109
2/ LM LT SP	52 32	313	106	7.5	6.5	120	110	36	20	56	62.9	12.8	86	84.6	3.2	103	26.3	26.4	107
LOCKNEY			PAYMASTER 18						90 PERCENT										
M LT SP	32 29	248	69	6.0	4.9	120	100	33	15	11 5/	65.4	12.1	90	82.7	2.7	101	26.6	26.6	107
SLM SP	43 30	269	85	6.9	5.3	130	110	39	23	36	63.0	13.1	87	82.4	3.3	98	25.8	26.6	109
3/ SLM SP	43 29	275	87	7.5	6.2	110	100	59	38	44	60.7	13.2	83	84.2	3.6	101	26.2	26.0	106
LOOP			PAYMASTER 18						90 PERCENT										
4/ SLM LT SP	42 29	257	82	6.3	5.3	130	120	29	14	32	66.7	12.0	93	80.8	2.6	97	26.4	27.2	110
SLM	41 29	250	72	6.3	5.2	130	110	14	10	26	68.5	11.2	94	81.2	2.8	97	27.7	26.1	103
1/ SLM LT SP	42 30	255	77	6.7	5.0	120	110	26	13	30	68.3	10.9	92	83.2	2.9	101	27.2	25.7	102
LORENZO			PAYMASTER 909						90 PERCENT										
M SP	33 31	309	102	7.9	6.8	130	130	22	12	51	62.3	13.2	86	84.1	3.0	103	27.3	25.7	102
M SP	33 32	303	100	8.1	6.9	130	110	26	11	54	59.5	13.3	81	85.4	3.2	105	27.1	25.8	103
SLM SP	43 32	299	100	8.6	7.1	120	110	28	15	54	59.0	13.4	80	83.7	3.1	102	26.1	26.5	108
LUBBOCK			PAYMASTER 909						75 PERCENT										
M SP	33 31	307	102	8.2	6.7	130	120	24	13	56	61.5	12.9	84	83.9	3.4	101	26.8	26.6	107
2/ LM LT SP	52 32	304	99	8.3	6.9	120	90	35	19	52	62.3	13.3	87	83.8	3.2	102	26.4	26.4	107
3/ SLM SP	43 31	299	99	8.3	6.7	120	100	34	17	52	63.8	13.1	89	83.8	3.3	101	27.1	25.9	103

1/ Reduced from 32 because of bark
2/ Reduced from 42 because of bark
3/ Reduced from 33 because of bark
4/ Reduced from 32 because of grass
5/ Below spinnable limits

Table 5.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling and Classification		Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST													
NORTHWEST TEXAS													
OLNEY		LANKART 57				80 PERCENT							
M LT SP 32	31	0.94	46	5.2	92	20	7.3	1.7	2.8	2	3	98	6.1
M LT SP 32	31	0.97	45	5.4	86	21	7.5	1.8	2.6	2	3	98	6.1
RULE		LANKART LX571				100 PERCENT							
SLM 41	32	1.02	44	4.8	87	20	6.9	1.8	2.7	2	3	96	6.2
SLM LT SP 42	31	0.96	43	4.5	89	21	6.5	2.1	3.0	3	3	96	6.6
SLM LT SP 42	31	0.95	44	4.4	87	21	6.3	2.3	3.4	2	3	96	6.8
SILVERTON		PAYMASTER 18				95 PERCENT							
M LT SP 32	30	0.89	47	4.6	87	20	6.6	1.3	2.5	2	5	98	5.5
1/ LM SP 53	31	0.95	44	2.6	81	21	7.2	2.8	4.6	5	7	85	7.9
2/ SLM LT SP 42	30	0.91	45	4.0	83	20	7.5	1.7	2.7	3	5	96	5.7
TULIA		STRIPPER 31				90 PERCENT							
SLM LT SP 42	30	0.90	48	4.4	88	22	6.5	2.7	3.6	2	4	99	8.0
SLM LT SP 42	30	0.94	47	4.0	86	21	7.5	2.5	3.6	2	4	100	6.5
SLM LT SP 42	30	0.87	46	4.0	90	21	7.2	2.9	4.0	3	5	97	7.8
VERNON		LANKART 57				100 PERCENT							
SLM LT SP 42	30	0.91	46	5.0	84	20	6.7	2.0	3.3	3	3	93	7.7
SLM LT SP 42	31	0.92	45	5.1	88	20	6.4	1.8	3.0	2	3	96	6.1
SLM LT SP 42	31	0.99	46	4.9	85	20	7.7	2.2	3.1	2	4	99	6.5
OKLAHOMA													
GRANDFIELD		LANKART 57				95 PERCENT							
SLM LT SP 42	30	0.95	47	5.3	87	21	6.3	3.0	3.8	3	4	94	7.8
SLM LT SP 42	31	0.96	45	5.3	88	20	6.9	2.1	2.6	2	3	97	7.0
SLM LT SP 42	31	0.97	46	5.3	84	22	7.0	3.8	4.5	2	3	98	6.8

1/ Reduced from 43 because of bark
2/ Reduced from 32 because of bark

Table 5a.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area Chronological sampling and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin-ning Poten-tial	Color - 22s gray yarn			Color-22s blchd.yarn			Color - 22s dyed yarn		
Grade	Staple		8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex	8s or 74 tex	22s or 27 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name Code	32d in.		Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH WEST																				
NORTHWEST TEXAS																				
OLNEY		LANKART 57						80 PERCENT												
M LT SP	32	31	270	87	6.6	5.6	120	110	19	9	42	67.3	10.7	89	81.6	2.7	98	26.2	27.2	110
M LT SP	32	31	282	91	7.2	6.0	130	120	14	10	44	67.5	10.9	90	82.0	3.1	98	27.0	26.3	105
RULE		LANKART LX571						100 PERCENT												
SLM	41	32	278	90	7.1	5.7	130	110	23	10	44	66.3	10.8	88	82.2	3.7	96	27.7	26.4	104
SLM LT SP	42	31	272	83	6.1	5.4	110	110	21	10	41	66.4	10.8	88	82.4	3.5	97	27.9	25.8	101
SLM LT SP	42	31	268	87	6.4	5.5	130	100	22	10	40	66.6	10.8	88	81.1	3.7	93	27.9	25.7	101
SILVERTON		PAYMASTER 18						95 PERCENT												
M LT SP	32	30	290	92	6.8	5.9	130	120	21	10	35	66.1	12.5	93	82.4	3.4	97	26.3	27.0	109
1/ LM SP	53	31	297	93	8.5	7.3	100	80	77	42	49	55.1	13.8	75	85.9	4.3	102	26.3	25.7	104
2/ SLM LT SP	42	30	276	88	7.3	6.2	120	110	37	22	38	62.7	12.6	86	82.5	3.3	98	26.4	26.5	107
TULIA		STRIPPER 31						90 PERCENT												
SLM LT SP	42	30	297	95	6.9	6.2	130	110	17	11	36	65.5	12.7	92	83.0	3.0	100	27.1	26.9	107
SLM LT SP	42	30	278	91	7.1	5.9	130	120	21	13	40	64.7	12.2	88	82.8	3.0	100	26.8	26.4	106
SLM LT SP	42	30	278	90	7.2	5.8	120	120	19	12	38	65.1	12.1	89	83.6	2.9	102	26.9	25.8	103
VERNON		LANKART 57						100 PERCENT												
SLM LT SP	42	30	248	77	6.5	5.4	130	100	20	8	33	65.1	11.4	87	82.0	2.9	99	26.9	25.9	104
SLM LT SP	42	31	274	88	6.3	5.6	130	110	20	10	40	67.3	11.1	90	82.7	3.0	100	27.1	26.0	104
SLM LT SP	42	31	273	86	6.9	5.7	130	110	20	9	39	67.5	11.2	91	82.4	2.8	100	27.0	26.2	105
OKLAHOMA																				
GRANDFIELD		LANKART 57						95 PERCENT												
SLM LT SP	42	30	265	80	6.3	4.8	130	110	24	12	35	66.3	12.0	92	81.5	3.2	96	27.5	25.8	102
SLM LT SP	42	31	256	79	6.5	5.3	130	110	19	13	32	66.5	11.3	89	82.6	3.1	99	27.2	26.4	105
SLM LT SP	42	31	272	91	6.8	5.9	130	110	21	11	41	67.5	11.3	92	83.6	2.8	103	26.3	26.6	108

1/ Reduced from 43 because of bark
2/ Reduced from 32 because of bark

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH EAST														
ALABAMA														
BELLE MINA			STONEVILLE 213				99 PERCENT							
SLM	41	33	1.05	45	4.7	82	22	7.7	1.9	2.6	1	3	101	6.6
SLM LT SP	42	33	1.03	47	4.8	79	21	7.6	3.2	3.9	2	3	99	7.0
SLM SP	43	34	1.05	45	4.1	84	22	7.1	3.0	3.9	3	4	95	6.9
HAZEL GREEN			STONEVILLE 213				100 PERCENT							
SLM	41	33	1.04	45	4.7	83	22	7.1	1.6	1.6	2	4	98	7.5
SLM LT SP	42	33	1.03	45	4.5	80	22	7.7	2.4	3.0	2	4	99	6.7
SLM LT SP	42	33	1.04	45	4.4	81	21	6.9	2.5	3.3	2	4	98	7.1
MERIDIANVILLE			STONEVILLE 603				100 PERCENT							
SLM	41	34	1.02	46	4.8	92	23	6.3	3.1	3.8	2	3	99	6.1
SLM LT SP	42	33	1.02	44	4.3	89	22	5.6	2.5	3.3	3	4	96	6.3
SLM	41	33	1.03	45	4.0	85	24	6.8	2.0	3.2	2	3	99	7.3
MONTGOMERY			DELTAPINE 16				80 PERCENT							
SLM	41	34	1.08	44	5.0	87	23	6.3	1.3	2.3	2	3	97	5.8
SLM	41	35	1.11	44	4.6	81	23	7.2	1.3	2.2	1	2	101	6.5
SLM LT SP	42	34	1.15	43	4.2	76	22	8.3	2.0	2.5	2	3	96	5.6
MOUNDVILLE			COKER 201				80 PERCENT							
SLM	41	34	1.09	45	4.9	83	24	6.9	2.5	2.9	2	3	101	5.8
SLM	41	34	1.06	44	4.5	83	22	6.1	1.5	1.9	1	3	101	5.8
LM	51	34	1.10	44	3.8	80	23	7.1	1.7	2.9	2	3	99	5.4
NORTHPORT			DELTAPINE 16				80 PERCENT							
SLM	41	34	1.11	45	4.8	79	22	7.7	1.7	2.9	1	3	102	6.0
SLM	41	34	1.10	44	4.5	84	23	7.3	1.2	1.8	1	2	101	5.6
SLM	41	34	1.09	44	4.2	79	22	7.7	1.5	2.0	1	3	104	5.8
PRATTVILLE			COKER 417				95 PERCENT							
SLM	41	35	1.13	47	4.7	90	25	5.9	2.3	2.5	2	3	100	5.8
SLM	41	35	1.11	45	4.5	92	25	5.6	1.6	2.7	2	2	99	6.7
SLM	41	35	1.10	44	4.6	91	24	5.6	1.7	2.4	1	3	101	4.2

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflctance	Yellowness	Composite	Reflctance	Yellowness	Composite	Reflctance	Blueness	Composite
Name Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH EAST																			
ALABAMA																			
BELLE MINA			STONEVILLE 213					99 PERCENT											
SLM 41	33	103	33	6.5	4.5	90	70	34	17	52	68.5	11.2	94	83.1	3.8	98	26.5	27.1	109
SLM LT SP 42	33	104	33	6.5	4.8	100	80	25	17	51	68.4	11.0	93	82.8	3.3	99	26.4	26.4	107
SLM SP 43	34	107	36	6.4	5.0	100	80	24	18	62	65.1	12.2	89	83.6	3.5	100	27.2	27.0	108
HAZEL GREEN			STONEVILLE 213					100 PERCENT											
SLM 41	33	89	24	5.8	3.8	90	70	28	22	40	68.5	11.5	95	83.0	3.7	98	27.3	26.0	103
SLM LT SP 42	33	90	28	5.4	3.8	110	80	17	12	60	66.7	11.6	91	82.9	3.3	99	26.9	26.1	105
SLM LT SP 42	33	96	29	5.9	4.1	100	80	17	16	49	65.6	12.1	90	83.4	3.7	99	27.0	26.4	106
MERIDIANVILLE			STONEVILLE 603					100 PERCENT											
SLM 41	34	92	26	4.9	3.5	100	80	19	13	43	66.9	11.2	90	81.8	3.8	94	26.8	25.8	104
SLM LT SP 42	33	92	26	5.2	3.5	90	80	21	18	44	63.8	12.2	87	81.5	3.6	95	26.9	25.8	103
SLM 41	33	96	28	5.9	3.7	90	70	26	19	48	67.4	11.1	91	82.9	3.0	100	27.0	26.0	104
MONTGOMERY			DELTAPINE 16					80 PERCENT											
SLM 41	34	104	33	5.6	4.4	110	80	21	17	53	67.5	10.5	89	82.6	3.2	99	27.2	26.5	106
SLM 41	35	106	36	6.3	4.6	100	80	19	15	57	67.7	10.0	88	84.0	2.6	104	27.8	25.8	102
SLM LT SP 42	34	111	38	6.8	5.3	80	70	29	25	69	65.1	10.9	86	83.0	2.6	102	27.7	26.0	103
MOUNDVILLE			COKER 201					80 PERCENT											
SLM 41	34	107	35	5.7	4.4	100	80	28	24	58	67.6	10.9	90	83.0	3.5	98	26.2	26.7	108
SLM 41	34	101	33	5.6	4.4	90	70	24	18	53	67.8	10.5	90	81.8	3.1	97	26.9	26.4	106
LM 51	34	108	35	6.2	4.3	90	70	29	20	60	66.3	10.9	88	83.2	2.9	101	26.9	26.5	106
NORTHPORT			DELTAPINE 16					80 PERCENT											
SLM 41	34	102	32	6.1	4.5	100	80	16	13	51	71.1	10.2	96	83.9	3.0	103	27.4	26.3	104
SLM 41	34	110	35	6.3	4.4	100	70	15	13	58	70.1	10.1	93	83.8	3.0	102	26.1	27.0	110
SLM 41	34	109	36	6.2	4.8	90	80	20	19	58	69.9	10.4	94	84.2	2.4	106	26.8	26.5	106
PRATTVILLE			COKER 417					95 PERCENT											
SLM 41	35	117	38	5.5	4.3	100	80	21	17	62	66.7	11.0	89	83.0	3.3	99	27.3	26.5	105
SLM 41	35	117	40	5.6	4.5	100	80	17	17	62	67.9	10.4	89	83.5	2.6	103	27.1	26.2	105
SLM 41	35	117	39	5.6	4.3	100	70	15	14	63	69.0	10.1	91	84.5	2.6	106	27.7	26.1	103

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH EAST														
ALABAMA														
SCOTTSBORO			DIXIE KING III				73 PERCENT							
M	31	35	1.10	46	4.2	85	23	7.7	1.1	1.6	1	3	101	4.3
SLM SP	43	34	1.08	45	4.1	83	22	6.5	1.6	2.5	3	4	97	5.7
SLM SP	43	34	1.11	45	3.9	81	23	6.6	2.1	2.9	3	5	92	6.4
GEORGIA														
ALLENTOWN			COKER 201				99 PERCENT							
LM	51	34	1.08	45	4.8	83	23	6.0	3.5	4.4	3	2	92	7.5
LM	51	35	1.07	44	4.8	85	23	6.0	2.4	3.2	3	2	93	7.0
LM	51	35	1.07	46	5.0	84	23	6.5	3.3	4.4	3	3	93	7.9
BOSTWICK			DIXIE KING III				100 PERCENT							
LM	51	35	1.03	46	4.5	87	24	6.5	3.8	5.0	3	3	93	6.9
LM	51	35	1.04	47	4.4	87	24	6.6	3.6	4.5	3	3	95	5.7
LM	51	35	1.06	47	4.4	88	23	7.2	3.0	4.3	3	3	93	7.9
SHELLMAN			DELTAPINE 16				70 PERCENT							
SLM	41	34	1.10	45	4.7	80	22	7.6	1.9	2.7	2	3	98	5.2
SLM LT SP	42	35	1.08	45	4.9	79	22	6.7	1.4	1.8	3	3	96	5.7
SLM LT SP	42	34	1.11	44	4.8	78	21	7.9	1.4	2.2	3	3	95	6.3
SOCIAL CIRCLE			MCNAIR 612				98 PERCENT							
SLM	41	35	1.11	46	4.4	84	24	6.4	2.5	3.0	2	3	98	5.8
SLM	41	35	1.08	47	4.7	84	23	6.1	3.4	3.9	2	3	98	7.0
1/ LM	51	35	1.11	45	4.5	85	22	6.8	4.2	5.1	2	3	96	7.9
NORTH CAROLINA														
LAURINBURG			MCNAIR 612				100 PERCENT							
SLM	41	36	1.17	47	4.7	89	26	5.9	3.2	4.0	2	2	99	6.6
SLM	41	36	1.12	45	4.6	85	24	6.3	4.2	4.9	2	2	98	6.4
SLM LT SP	42	35	1.10	47	4.4	87	24	6.4	5.0	5.4	2	3	98	7.6
SHELBY			COKER 201				100 PERCENT							
SLM LT SP	42	34	1.03	47	4.8	91	23	6.5	1.9	2.6	3	4	94	6.0
SLM LT SP	42	34	1.03	47	4.6	86	22	6.2	2.0	2.7	3	4	95	7.6
SLM LT SP	42	34	1.03	46	4.7	87	22	6.9	2.0	3.4	3	4	95	6.7

1/ Reduced from 41 because of bark

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976 --Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
	Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflctance	Yellowness	Composite	Reflctance	Yellowness	Composite	Reflctance	Blueness	Composite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH EAST																				
ALABAMA																				
SCOTTSBORO				DIXIE KING III						73 PERCENT										
M		31 35	113	38	6.7	4.9	100	80	11	9	66	67.1	10.8	89	82.7	3.5	98	26.6	26.8	108
SLM SP		43 34	114	39	5.9	4.8	100	90	17	14	67	62.6	12.7	86	83.4	3.7	99	26.3	26.9	109
SLM SP		43 34	118	41	6.2	4.8	100	70	25	22	72	61.6	12.5	83	81.8	3.3	96	26.6	26.5	107
GEORGIA																				
ALLENTOWN				COKER 201						99 PERCENT										
LM		51 34	107	36	5.5	4.2	100	70	26	19	58	65.0	10.9	85	84.0	3.0	103	27.4	26.8	106
LM		51 35	97	29	5.3	3.8	100	70	18	17	44	66.2	10.5	87	82.7	2.8	101	27.5	26.8	106
LM		51 35	96	29	5.3	3.5	90	80	26	20	43	66.1	10.4	86	82.7	2.7	101	27.6	25.8	102
BOSTWICK				DIXIE KING III						100 PERCENT										
LM		51 35	117	38	5.9	4.4	100	90	10	10	62	65.5	11.4	88	80.9	4.8	88	26.6	26.2	106
LM		51 35	111	37	5.8	4.2	120	90	11	10	62	66.3	11.4	89	82.2	4.3	93	27.2	25.8	103
LM		51 35	115	37	6.1	4.5	100	90	14	11	63	67.2	11.0	90	82.8	3.7	97	28.0	25.7	101
SHELLMAN				DELTAPINE 16						70 PERCENT										
SLM		41 34	97	31	6.1	4.2	100	80	15	10	54	66.1	11.1	88	82.4	2.9	99	28.0	26.2	103
SLM LT SP		42 35	98	32	5.8	3.9	90	80	17	13	53	66.0	11.2	88	82.2	4.2	94	27.3	25.0	99
SLM LT SP		42 34	95	30	6.2	4.3	90	80	16	12	51	65.0	10.6	85	83.3	3.6	99	27.8	26.5	104
SOCIAL CIRCLE				MCNAIR 612						98 PERCENT										
SLM		41 35	116	39	6.3	4.7	100	80	19	12	63	67.3	11.0	90	82.9	3.2	99	28.4	25.4	99
SLM		41 35	106	34	5.7	4.3	90	70	24	22	59	66.8	10.6	88	83.6	3.0	102	26.9	26.1	105
1/ LM		51 35	107	34	6.0	4.5	100	80	27	18	60	66.0	10.0	85	82.9	3.4	99	27.3	25.9	103
NORTH CAROLINA																				
LAURINBURG				MCNAIR 612						100 PERCENT										
SLM		41 36	129	42	6.0	4.6	100	90	27	21	70	68.2	10.6	91	83.4	3.3	100	26.8	26.9	108
SLM		41 36	114	39	5.3	4.4	90	70	27	18	65	68.1	10.4	90	83.4	3.6	99	27.3	26.2	104
SLM LT SP		42 35	114	40	5.9	4.7	90	60	31	22	63	66.2	11.3	89	81.6	3.2	96	26.7	26.6	107
SHELBY				COKER 201						100 PERCENT										
SLM LT SP		42 34	97	29	5.2	3.6	100	90	8	10	51	64.5	12.2	88	81.2	5.3	87	26.8	25.4	102
SLM LT SP		42 34	102	31	5.6	3.9	110	90	12	11	53	65.5	11.8	89	82.0	3.9	95	26.1	26.9	109
SLM LT SP		42 34	93	30	5.6	3.9	110	90	12	10	52	64.7	11.2	86	82.2	4.4	93	26.9	25.3	101

1/ Reduced from 41 because of bark

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
	Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH EAST														
SOUTH CAROLINA														
BLACKVILLE			MCNAIR 612				100 PERCENT							
M LT SP	32	34	1.08	46	5.2	92	23	5.9	1.8	2.4	2	3	97	4.9
SLM	41	34	1.07	45	4.8	86	24	5.9	1.6	2.5	1	2	101	6.1
LM LT SP	52	34	1.10	45	4.6	88	23	6.4	2.8	3.5	2	3	96	6.9
CHESTER			COKER 417				100 PERCENT							
SLM LT SP	42	34	1.05	45	4.6	89	25	6.4	3.3	3.9	4	4	89	6.5
SLM LT SP	42	34	1.05	44	4.3	90	23	5.9	2.4	3.3	3	3	94	6.6
MAYESVILLE			COKER 201				100 PERCENT							
M	31	34	1.08	45	5.0	89	23	5.5	1.3	2.1	2	3	100	6.1
SLM	41	35	1.12	47	4.8	89	23	6.2	2.0	2.8	2	3	98	5.5
M SP	33	35	1.13	46	4.4	84	23	6.2	1.7	2.9	3	5	95	5.9
SOUTH CENTRAL														
ARKANSAS														
ALTHEIMER			DELTAPINE 16				100 PERCENT							
SLM	41	35	1.14	45	4.6	87	25	7.6	2.5	2.3	1	2	102	6.8
SLM	41	35	1.13	44	4.4	91	25	7.8	2.1	3.5	1	2	102	6.4
SLM	41	35	1.14	43	3.9	86	24	7.3	2.5	3.3	1	2	103	5.6
DRIVER			STONEVILLE 213				100 PERCENT							
SLM	41	36	1.11	45	4.2	89	23	6.4	2.8	3.5	1	2	101	6.3
SLM	41	35	1.09	43	4.0	87	24	6.5	3.0	4.0	1	2	102	7.9
LM	51	35	1.07	43	3.4	85	23	6.6	4.9	6.1	2	2	96	7.6
DUMAS			STONEVILLE 213				100 PERCENT							
M	31	34	1.08	48	4.9	88	24	6.7	1.1	1.6	1	3	103	6.3
SLM	41	35	1.10	45	4.2	84	23	6.6	1.7	2.7	1	2	102	5.3
SLM	41	35	1.11	45	4.3	87	23	6.0	1.9	2.7	2	2	99	6.0
HUGHES			STONEVILLE 213				100 PERCENT							
SLM	41	35	1.11	46	4.5	88	24	6.3	2.1	2.9	2	2	98	5.5
SLM	41	35	1.12	42	4.2	93	23	6.4	1.9	2.8	2	2	99	5.2
SLM	41	35	1.07	45	4.2	89	23	6.1	2.1	2.9	2	2	100	5.6

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflctance	Yellowness	Composite	Reflctance	Yellowness	Composite	Reflctance	Blueness	Composite
Name Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH EAST																			
SOUTH CAROLINA																			
BLACKVILLE		MCNAIR 612						100 PERCENT											
M LT SP	32 34	106	35	5.6	4.2	100	80	14	11	55	66.4	11.0	88	80.9	3.5	94	27.6	26.3	104
SLM	41 34	102	33	5.5	4.1	90	90	20	14	53	69.6	10.4	93	82.4	3.3	98	27.4	26.0	103
LM LT SP	52 34	110	38	5.9	4.5	90	80	22	20	60	65.5	11.6	88	82.5	2.9	100	26.3	26.7	108
CHESTER		COKER 417						100 PERCENT											
SLM LT SP	42 34	115	38	5.6	4.1	120	90	15	11	62	63.7	11.4	84	83.3	4.2	96	28.0	26.2	103
SLM LT SP	42 34	110	36	5.6	4.3	100	80	22	14	58	64.7	10.9	85	82.7	4.0	96	27.6	26.2	104
MAYESVILLE		COKER 201						100 PERCENT											
M	31 34	99	31	5.2	3.5	100	80	24	20	48	66.7	11.1	89	83.2	2.7	102	27.8	26.6	105
SLM	41 35	108	35	5.7	4.4	100	80	25	19	55	68.4	10.2	90	82.4	3.0	99	27.2	26.3	105
M SP	33 35	109	35	5.9	4.5	90	70	20	17	60	63.2	12.6	86	84.1	3.0	103	26.3	26.9	109
SOUTH CENTRAL																			
ARKANSAS																			
ALTHEIMER		DELTAPINE 16						100 PERCENT											
SLM	41 35	120	39	6.3	4.7	90	70	25	22	62	69.2	10.3	92	83.6	2.8	103	25.8	27.9	114
SLM	41 35	117	39	6.5	4.7	90	80	21	17	61	70.3	9.8	93	83.5	2.8	102	27.1	26.1	104
SLM	41 35	112	37	6.4	4.7	90	70	16	13	61	69.8	9.8	92	83.8	2.7	104	26.4	27.1	110
DRIVER		STONEVILLE 213						100 PERCENT											
SLM	41 36	117	38	6.5	4.5	100	80	16	11	63	70.0	10.7	95	84.1	3.2	102	26.8	26.2	105
SLM	41 35	109	33	5.8	4.2	90	70	16	13	53	70.5	10.6	96	83.6	3.1	102	26.2	27.4	111
LM	51 35	102	33	5.5	4.2	100	80	16	12	50	67.9	10.5	90	81.0	3.2	95	26.8	26.4	106
DUMAS		STONEVILLE 213						100 PERCENT											
M	31 34	112	36	5.7	4.2	110	90	8	9	56	69.8	10.6	94	84.4	2.7	105	27.1	27.0	108
SLM	41 35	106	34	6.1	4.5	100	80	13	10	57	70.9	10.4	96	82.5	2.3	102	25.9	27.3	111
SLM	41 35	109	35	6.0	4.4	100	70	19	16	58	69.7	10.1	92	82.7	2.9	100	27.1	27.0	108
HUGHES		STONEVILLE 213						100 PERCENT											
SLM	41 35	111	37	6.0	4.4	90	70	25	19	59	67.0	10.7	89	82.7	3.7	97	25.9	27.0	110
SLM	41 35	107	35	5.8	4.3	90	70	19	16	54	68.5	10.2	90	82.5	2.9	100	27.4	26.3	104
SLM	41 35	110	35	5.9	4.4	100	80	17	10	52	68.7	10.1	90	82.5	3.1	99	27.6	26.3	104

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL														
ARKANSAS														
KEISER			DELTAPINE 16				100 PERCENT							
SLM	41	36	1.15	44	4.1	87	26	7.7	1.7	2.1	1	2	102	5.0
M	31	34	1.10	43	4.3	89	23	8.3	1.2	1.6	0	2	104	5.4
SLM	41	34	1.09	42	3.6	86	23	7.8	1.7	2.5	2	2	100	6.1
LEACHVILLE			STONEVILLE 213				100 PERCENT							
SLM	41	36	1.13	45	4.1	87	24	6.6	1.9	2.8	2	3	100	5.8
SLM	41	34	1.08	43	4.4	86	24	6.9	1.5	2.5	1	3	101	7.0
SLM	41	34	1.08	45	4.2	84	23	6.3	1.8	2.2	2	2	97	6.5
MCGEHEE			STONEVILLE 213				100 PERCENT							
SLM	41	34	1.08	45	4.9	87	23	6.4	1.6	2.5	1	3	101	7.6
SLM	41	35	1.08	46	4.8	87	23	6.5	1.6	2.4	2	3	100	7.0
SLM	41	34	1.09	44	4.4	88	23	5.9	1.9	2.5	1	2	100	6.3
OSCEOLA			STONEVILLE 731N				100 PERCENT							
SLM	41	34	1.05	42	3.7	89	21	5.4	2.1	3.3	1	3	103	7.4
SLM	41	34	1.03	41	3.2	92	22	5.5	2.3	3.8	1	3	101	8.0
LM	51	34	1.05	42	3.5	83	21	5.8	2.2	3.8	2	2	99	9.4
PROCTOR			STONEVILLE 213				100 PERCENT							
SLM	41	34	1.06	43	4.4	87	22	6.7	1.6	2.8	1	3	103	6.6
SLM	41	34	1.07	43	3.8	87	23	6.8	1.3	1.7	1	3	103	6.3
SLM	41	34	1.03	43	3.9	84	23	6.8	1.3	2.1	1	2	103	6.1
WYNN			DELTAPINE 16				100 PERCENT							
SLM	41	34	1.06	44	4.0	91	25	8.0	1.9	2.8	1	3	103	5.9
M	31	34	1.08	45	4.2	89	24	8.0	2.2	3.3	1	2	103	6.4
SLM	41	34	1.05	44	4.1	86	23	7.7	2.7	3.5	1	2	100	7.6
LOUISIANA														
EPPS			DELTAPINE 16				100 PERCENT							
SLM	41	34	1.09	44	4.2	89	24	7.3	1.5	2.2	1	3	102	5.4
M	31	35	1.14	44	4.1	92	25	7.6	1.3	2.2	0	2	104	4.9
M	31	35	1.09	45	4.7	87	25	7.2	1.4	2.2	1	3	101	6.2

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin-ning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
	Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL																				
ARKANSAS																				
KEISER				DELTAPINE 16						100 PERCENT										
	SLM	41 36	122	41	6.6	5.3	90	70	18	15	70	70.0	10.5	94	84.4	3.0	104	26.4	27.2	110
	M	31 34	116	37	6.7	4.6	100	80	12	11	64	70.8	10.0	94	83.5	2.8	102	26.8	26.9	108
	SLM	41 34	111	35	6.4	4.8	100	70	17	12	67	68.0	10.2	89	83.2	3.0	101	26.6	26.5	107
LEACHVILLE				STONEVILLE 213						100 PERCENT										
	SLM	41 36	117	39	6.3	5.7	90	80	20	15	61	68.1	11.2	93	83.6	3.4	100	26.8	26.9	108
	SLM	41 34	107	34	5.7	4.5	100	80	15	12	55	68.4	10.6	91	82.8	3.3	99	26.8	25.8	104
	SLM	41 34	102	33	5.7	4.2	90	70	23	18	53	67.7	10.2	89	82.7	3.5	98	27.2	25.8	103
MCGEHEE				STONEVILLE 213						100 PERCENT										
	SLM	41 34	103	30	5.4	3.8	100	70	21	16	51	67.5	10.9	90	83.5	3.1	101	26.8	26.2	105
	SLM	41 35	98	30	5.8	3.8	110	80	14	12	50	68.5	10.7	92	82.3	2.9	99	27.8	26.2	103
	SLM	41 34	109	36	5.9	4.3	100	90	19	15	59	68.2	10.4	90	83.2	3.0	101	26.6	26.1	105
OSCEOLA				STONEVILLE 731N						100 PERCENT										
	SLM	41 34	91	29	5.3	3.9	70	60	29	26	45	70.7	10.6	96	84.0	3.2	102	26.7	25.5	103
	SLM	41 34	92	29	5.3	3.8	80	60	28	23	43	69.5	10.6	94	83.2	2.9	101	28.5	25.9	101
	LM	51 34	99	32	5.6	3.9	80	60	36	29	50	68.3	10.3	90	82.0	3.2	97	27.4	25.8	102
PROCTOR				STONEVILLE 213						100 PERCENT										
	SLM	41 34	101	30	5.9	4.0	90	70	17	15	46	71.6	10.4	97	83.1	3.0	101	27.2	26.2	104
	SLM	41 34	104	33	5.8	4.3	80	60	22	17	52	70.5	10.5	96	83.7	3.0	102	27.6	26.2	104
	SLM	41 34	102	32	6.3	4.3	90	70	14	14	49	70.1	10.3	94	84.2	3.4	102	26.7	26.8	108
WYNN				DELTAPINE 16						100 PERCENT										
	SLM	41 34	115	37	6.5	4.7	100	80	21	17	56	69.2	11.1	95	83.3	3.2	100	27.1	26.7	107
	M	31 34	109	36	6.4	4.3	100	90	15	14	54	69.6	10.4	93	82.5	2.9	100	26.7	26.8	108
	SLM	41 34	108	34	5.9	4.4	110	90	14	11	53	68.5	10.0	89	83.0	2.8	101	27.1	26.4	105
LOUISIANA																				
EPPS				DELTAPINE 16						100 PERCENT										
	SLM	41 34	113	38	5.9	4.3	100	80	15	10	58	69.0	10.4	92	83.9	3.0	103	27.6	26.5	105
	M	31 35	112	37	6.9	4.8	100	70	12	12	62	70.4	10.6	96	84.1	2.5	105	27.0	26.6	106
	M	31 35	115	37	6.5	4.7	90	80	17	11	62	68.8	10.1	90	83.1	2.4	103	26.9	26.4	106

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL														
LOUISIANA														
LAKE PROVIDENCE			DELTAPINE 16				100 PERCENT							
SLM	41	35	1.14	45	4.5	87	24	8.0	2.2	3.1	1	2	101	5.7
SLM	41	35	1.11	45	4.4	91	24	7.6	3.0	4.0	1	2	102	5.6
SLM	41	35	1.10	44	4.1	86	23	7.5	2.2	3.0	1	2	103	6.6
LAKE PROVIDENCE			STONEVILLE 213				100 PERCENT							
SLM	41	34	1.07	44	4.9	89	23	5.6	1.6	2.3	1	3	101	6.0
SLM	41	34	1.07	44	5.1	90	23	6.0	2.6	3.2	1	2	103	6.0
SLM	41	34	1.07	45	4.6	82	23	6.6	2.1	2.5	1	2	101	7.0
MONROE			DELTAPINE 61				100 PERCENT							
M	31	35	1.08	48	5.3	85	24	8.0	0.8	1.7	1	3	103	6.1
SLM	41	35	1.08	46	4.8	86	24	7.0	1.2	1.8	1	2	102	6.4
SLM	41	34	1.09	44	4.6	85	24	7.7	1.4	2.2	1	2	102	5.4
OAK RIDGE			DELTAPINE 25				100 PERCENT							
SLM	41	34	1.10	46	4.3	88	22	6.3	1.9	2.4	1	2	102	5.5
SLM	41	34	1.09	46	5.1	94	23	6.6	2.4	3.3	1	2	101	6.1
SLM	41	34	1.08	47	4.8	91	23	6.2	1.7	2.2	1	2	102	5.9
OPELOUSAS			STONEVILLE 213				76 PERCENT							
SLM	41	34	1.09	45	4.5	83	22	7.2	1.7	2.6	2	3	97	5.5
SLM	41	34	1.10	43	4.0	80	22	7.8	1.6	1.9	0	2	103	4.8
SLM	41	34	1.03	44	3.8	82	22	6.6	2.3	3.4	2	2	99	7.6
SHREVEPORT			DELTAPINE 16				100 PERCENT							
SLM	41	34	1.09	45	4.6	86	23	7.5	0.9	1.7	2	3	100	4.7
SLM	41	35	1.10	43	4.6	88	24	6.4	1.6	2.4	1	2	102	5.6
SLM	41	35	1.10	43	3.7	86	23	7.7	1.0	1.8	1	3	103	5.1
SICILY ISLAND			STONEVILLE 213				100 PERCENT							
SLM	41	34	1.08	46	4.4	87	22	5.3	2.1	2.7	2	3	100	6.0
SLM	41	34	1.10	46	4.9	92	24	5.4	2.3	3.3	1	2	101	7.3
SLM	41	34	1.07	45	4.9	93	22	6.2	2.3	3.1	1	2	101	6.4

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin-ning Poten-tial	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Grade		Staple																		
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL																				
LOUISIANA																				
LAKE PROVIDENCE			DELTAPINE 16						100 PERCENT											
SLM		41 35	120	41	6.8	5.0	100	80	12	8	68	70.3	10.3	94	82.8	2.7	101	26.8	27.1	109
SLM		41 35	114	38	6.4	4.8	100	80	13	10	61	70.8	10.2	95	84.1	2.4	105	27.1	26.7	107
SLM		41 35	118	39	6.9	4.9	90	70	21	17	67	69.0	10.1	91	84.5	2.9	104	27.2	26.3	105
LAKE PROVIDENCE			STONEVILLE 213						100 PERCENT											
SLM		41 34	103	31	5.5	3.8	90	70	25	20	52	66.3	11.1	88	81.7	3.6	95	26.5	26.9	109
SLM		41 34	104	32	5.4	3.8	100	80	21	13	50	69.9	10.8	95	82.4	2.8	100	26.7	26.4	106
SLM		41 34	106	34	6.4	4.2	90	70	25	16	55	68.3	10.3	90	81.8	2.6	99	26.9	26.4	106
MONROE			DELTAPINE 61						100 PERCENT											
M		31 35	106	35	6.1	4.2	110	90	13	12	50	70.5	10.3	95	82.9	2.8	101	27.5	26.8	106
SLM		41 35	112	36	6.5	4.9	110	80	14	11	59	69.6	10.2	93	83.6	2.7	103	27.3	26.1	104
SLM		41 34	113	38	6.1	4.4	90	70	19	15	63	70.1	9.6	92	81.8	2.5	100	26.8	26.2	105
OAK RIDGE			DELTAPINE 25						100 PERCENT											
SLM		41 34	116	39	6.1	4.3	110	90	19	13	61	69.5	11.5	97	84.1	3.2	102	26.3	27.3	111
SLM		41 34	109	35	5.6	4.2	110	90	12	11	57	69.4	10.4	93	83.0	2.6	102	27.6	26.5	105
SLM		41 34	114	38	6.0	4.4	100	80	20	14	60	68.9	10.1	91	82.9	2.5	102	27.0	26.1	104
OPELOUSAS			STONEVILLE 213						76 PERCENT											
SLM		41 34	101	32	6.1	4.2	100	80	16	12	57	67.6	10.7	90	82.8	3.3	99	26.8	27.0	108
SLM		41 34	104	34	6.7	4.9	100	80	10	10	57	71.3	9.9	95	83.4	2.1	105	27.7	26.7	105
SLM		41 34	97	30	6.0	4.2	90	70	23	20	56	70.3	10.2	94	83.4	2.4	104	27.3	26.5	105
SHREVEPORT			DELTAPINE 16						100 PERCENT											
SLM		41 34	99	30	5.7	3.7	110	80	9	7	50	66.7	10.3	87	82.8	3.2	99	28.2	25.2	98
SLM		41 35	103	32	5.7	4.2	100	70	15	13	53	70.1	10.2	94	83.9	2.6	104	27.3	26.4	105
SLM		41 35	109	37	6.7	4.7	100	80	15	10	59	67.6	10.6	89	83.3	3.0	101	26.6	26.7	108
SICILY ISLAND			STONEVILLE 213						100 PERCENT											
SLM		41 34	102	32	5.4	3.9	110	100	11	7	53	68.4	11.2	93	83.3	3.3	100	27.1	26.2	105
SLM		41 34	107	32	5.4	3.7	100	70	12	8	55	68.8	10.9	93	82.7	3.2	99	27.7	26.4	104
SLM		41 34	97	28	5.3	3.5	120	90	11	10	47	68.9	10.5	92	83.0	2.9	101	27.4	27.3	108

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL														
MISSISSIPPI														
ARCOLA			DELTAPINE 55				100 PERCENT							
SLM	41	35	1.07	45	4.1	88	23	6.3	1.4	2.1	1	2	101	6.2
SLM	41	34	1.07	44	4.4	95	23	5.9	3.8	4.6	2	2	99	5.5
SLM	41	35	1.10	44	4.1	94	23	5.7	1.8	2.4	2	1	99	6.0
BELZONI			DELTAPINE 16				100 PERCENT							
SLM	41	34	1.04	46	4.8	91	24	6.1	2.1	2.9	2	3	97	6.7
SLM	41	35	1.14	45	3.9	84	24	7.5	2.3	3.0	1	2	101	6.4
LM	51	35	1.11	44	3.7	85	24	7.3	3.6	4.5	2	1	98	6.0
DUCK HILL			DELTAPINE 16				90 PERCENT							
SLM	41	34	1.10	45	4.3	86	24	7.4	1.1	2.0	2	3	100	4.8
SLM	41	34	1.05	45	4.2	86	22	8.2	1.4	1.9	1	2	102	5.7
SLM	41	34	1.01	43	3.9	83	21	7.6	1.7	2.6	2	2	97	6.9
GLENDORA			STONEVILLE 731N				100 PERCENT							
1/ LM	51	34	1.08	46	4.7	92	24	5.5	2.8	3.6	1	2	101	6.2
SLM	41	35	1.07	45	4.2	93	23	5.3	1.4	2.4	1	2	100	6.9
LM	51	35	1.07	46	4.4	90	21	5.4	3.3	4.0	2	1	96	8.0
GREENVILLE			DELTAPINE 16				100 PERCENT							
M	31	35	1.13	44	3.9	89	26	8.0	1.3	2.2	0	2	104	5.1
SLM+	40	35	1.14	44	4.2	87	25	7.7	2.1	2.8	0	2	104	5.1
SLM	41	35	1.11	43	3.9	85	23	7.4	1.0	1.8	1	2	102	4.9
HOLLANDALE			DELTAPINE 16				100 PERCENT							
SLM	41	34	1.09	42	3.5	88	25	7.3	2.3	3.4	1	2	100	5.8
LM	51	35	1.08	43	4.0	89	23	7.4	3.4	4.5	2	1	99	6.1
LM	51	34	1.11	42	3.6	83	24	7.1	3.4	4.5	2	2	97	6.6
INDIANOLA			DIXIE KING III				100 PERCENT							
LM	51	33	1.03	45	4.0	98	24	5.1	3.4	4.2	3	2	94	6.9 2/
LM	51	33	1.02	44	3.9	95	23	5.2	3.4	4.6	3	2	90	6.5

1/ Reduced from 41 because of grass
2/ Cotton stuck to processing rolls

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976 --Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin-ning Poten-tial	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
Grade		Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL MISSISSIPPI																				
ARCOLA			DELTAPINE 55						100 PERCENT											
	SLM	41 35	104	32	5.7	3.7	100	70	12	9	51	70.0	10.0	93	84.4	2.9	104	28.3	26.2	102
	SLM	41 34	106	34	5.4	3.8	110	90	10	5	52	69.3	9.9	91	81.4	2.5	99	27.2	25.8	103
	SLM	41 35	110	36	5.7	4.2	100	80	14	10	57	68.6	9.3	88	83.2	2.2	104	27.4	26.1	104
BELZONI			DELTAPINE 16						100 PERCENT											
	SLM	41 34	96	31	5.3	3.9	110	90	13	9	45	68.3	10.4	90	82.8	2.8	101	27.8	26.0	102
	SLM	41 35	115	39	6.7	4.7	110	80	18	11	63	70.9	9.9	94	83.4	2.7	103	27.5	25.6	101
	LM	51 35	111	37	6.4	4.8	100	80	19	14	60	68.8	9.4	88	83.6	3.0	102	27.6	26.4	104
DUCK HILL			DELTAPINE 16						90 PERCENT											
	SLM	41 34	107	35	6.0	4.5	120	90	12	9	57	68.6	11.0	93	84.1	3.3	102	26.9	26.8	107
	SLM	41 34	106	34	6.4	4.7	110	90	7	8	56	71.2	10.2	96	83.2	2.8	102	27.9	26.5	104
	SLM	41 34	102	32	6.1	4.4	110	70	18	19	59	69.2	10.2	92	83.3	2.4	104	27.0	26.2	105
GLENOORA			STONEVILLE 731N						100 PERCENT											
1/	LM	51 34	108	35	5.3	4.0	100	90	13	11	54	69.1	10.6	93	83.4	2.9	102	27.4	26.4	105
	SLM	41 35	103	30	5.4	3.6	100	80	13	10	47	69.6	9.8	91	82.5	2.7	101	27.5	26.1	103
	LM	51 35	102	33	5.4	3.7	100	70	19	16	53	69.3	9.4	89	82.5	2.8	100	27.5	25.8	102
GREENVILLE			DELTAPINE 16						100 PERCENT											
	M	31 35	122	41	6.8	5.0	100	80	13	9	64	71.8	9.8	96	84.2	2.9	104	27.1	26.8	107
	SLM+	40 35	120	40	6.8	5.2	90	80	14	11	67	71.4	10.1	96	83.5	2.4	104	27.2	26.8	107
	SLM	41 35	116	38	6.3	4.4	90	70	19	15	66	69.8	9.5	90	83.8	2.9	103	27.4	26.6	106
HOLLANDALE			DELTAPINE 16						100 PERCENT											
	SLM	41 34	115	37	6.2	4.5	90	70	26	18	63	68.0	10.4	90	84.7	2.9	105	27.2	26.2	104
	LM	51 35	117	38	6.2	4.6	90	70	24	17	64	69.4	9.9	91	82.5	2.5	101	27.6	26.6	105
	LM	51 34	113	38	6.6	4.7	80	70	27	23	65	67.5	10.1	88	83.2	3.2	100	26.6	26.6	107
INDIANOLA			DIXIE KING III						100 PERCENT											
	LM	51 33	106	35	5.2	3.8	110	70	15	10	52	66.0	11.0	87	83.8	3.1	102	28.0	26.4	104
	LM	51 33	104	32	5.3	3.6	100	80	15	14	49	65.3	10.0	84	83.5	3.0	102	29.2	25.0	96

1/ Reduced from 41 because of grass

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL MISSISSIPPI														
INDIANOLA			STONEVILLE 213				100 PERCENT							
LM+	50	34	1.04	47	4.3	93	25	6.0	2.8	3.7	2	3	97	6.7
SLM	41	33	1.03	44	4.3	93	23	6.3	2.4	3.2	2	3	97	6.3
LM	51	34	1.01	45	4.2	91	23	6.0	3.5	4.4	3	2	94	6.3
LYON			STONEVILLE 213				100 PERCENT							
SLM	41	34	1.07	45	4.8	91	24	6.4	2.6	3.2	2	3	100	7.0
SLM	41	34	1.03	43	4.8	89	22	6.3	3.2	3.7	2	2	97	6.6
LM	51	35	1.05	43	4.3	90	23	6.1	2.4	2.8	2	1	97	7.0
NATCHEZ			STONEVILLE 213				85 PERCENT							
SLM	41	34	1.07	45	4.3	87	23	6.0	2.2	2.5	1	2	102	5.7
SLM	41	34	1.07	44	4.2	85	21	7.0	2.1	3.1	1	2	103	6.6
SLM	41	35	1.11	43	4.1	80	24	6.7	2.0	2.8	1	2	103	6.9
PANTHER BURN			DELTAPINE 16				100 PERCENT							
SLM	41	35	1.13	43	4.0	87	24	7.6	1.9	2.8	1	2	102	7.2
SLM	41	35	1.14	43	3.8	85	23	7.7	2.5	3.3	1	1	102	5.7
SLM	41	35	1.11	42	3.8	87	24	7.0	2.4	2.9	1	1	101	6.3
SCOTT			DELTAPINE 61				100 PERCENT							
SLM	41	34	1.10	45	4.4	91	26	7.4	1.7	2.0	1	2	101	4.1
SLM	41	34	1.12	44	4.2	84	24	8.4	1.9	2.5	1	2	103	5.6
SLM	41	35	1.11	44	4.0	84	25	7.7	2.3	2.9	2	1	98	6.1
SUNFLOWER			STONEVILLE 213				100 PERCENT							
SLM	41	33	0.99	44	4.6	89	22	6.0	2.2	3.1	2	2	96	6.9
SLM	41	33	1.01	47	4.7	90	23	5.9	1.7	2.4	2	2	98	6.9
SLM	41	33	1.05	43	4.3	84	23	6.3	1.8	2.8	2	2	99	7.4
TRIBBETT			STONEVILLE 213				100 PERCENT							
SLM	41	34	1.07	45	4.5	89	25	7.9	2.7	3.9	1	2	102	6.4
LM	51	34	1.05	47	5.0	89	25	5.7	3.1	4.0	3	2	93	6.1
LM	51	34	1.04	46	4.9	89	23	5.8	3.2	4.3	3	2	93	8.2

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin-ning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
Grade		Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL MISSISSIPPI																				
INDIANOLA			STONEVILLE 213						100 PERCENT											
LM+		50 34	114	37	5.7	4.3	110	90	14	10	58	67.8	10.7	90	83.6	3.0	102	27.0	26.9	108
SLM		41 33	100	32	5.2	4.0	100	90	8	9	48	69.7	10.1	92	82.7	3.1	99	27.8	25.0	98
LM		51 34	106	33	5.7	3.9	110	80	15	13	57	66.8	10.0	86	82.3	2.7	100	28.6	25.4	98
LYON			STONEVILLE 213						100 PERCENT											
SLM		41 34	101	31	5.4	4.0	100	80	10	9	49	68.9	10.7	93	83.4	2.8	102	27.6	26.7	106
SLM		41 34	90	28	4.9	3.4	110	90	11	9	43	69.0	10.4	92	82.7	2.5	102	27.9	26.1	103
LM		51 35	96	28	5.4	3.5	100	80	14	11	47	68.6	9.6	89	82.9	2.6	102	28.4	25.6	100
NATCHEZ			STONEVILLE 213						85 PERCENT											
SLM		41 34	105	32	6.0	4.3	100	80	17	12	54	70.2	10.6	95	84.5	2.8	105	27.2	26.9	107
SLM		41 34	102	32	5.7	4.2	100	80	18	12	52	71.7	10.2	97	84.3	2.6	105	27.4	26.1	104
SLM		41 35	111	36	6.5	4.9	100	90	14	12	61	70.0	10.5	94	84.7	2.3	107	27.0	26.7	107
PANTHER BURN			DELTAPINE 16						100 PERCENT											
SLM		41 35	114	37	6.7	4.9	90	70	23	20	58	70.3	9.6	92	83.7	2.5	104	27.1	26.9	107
SLM		41 35	116	38	6.8	5.1	90	70	22	17	64	70.3	9.4	91	82.9	2.4	103	27.4	26.7	106
SLM		41 35	109	37	6.1	4.6	90	60	18	16	60	71.0	9.2	92	84.1	2.5	105	27.6	26.6	105
SCOTT			DELTAPINE 61						100 PERCENT											
SLM		41 34	121	41	6.4	4.7	110	90	11	9	72	69.7	10.2	93	84.3	3.0	104	26.2	27.7	112
SLM		41 34	122	42	6.9	5.3	100	90	12	10	72	71.1	9.9	95	84.5	2.3	107	26.6	27.2	110
SLM		41 35	121	39	6.6	4.7	100	80	16	14	69	69.0	10.0	90	83.8	2.4	105	27.8	26.2	103
SUNFLOWER			STONEVILLE 213						100 PERCENT											
SLM		41 33	92	27	5.3	3.5	110	80	14	10	42	66.2	10.4	86	81.5	3.8	94	27.6	25.7	102
SLM		41 33	97	29	5.3	3.5	110	90	15	11	44	67.7	10.1	88	82.1	3.2	98	27.6	26.6	105
SLM		41 33	104	35	6.0	4.3	100	80	15	17	59	69.0	9.6	89	82.3	2.7	100	27.3	26.3	105
TRIBBETT			STONEVILLE 213						100 PERCENT											
SLM		41 34	113	36	6.4	4.8	120	90	9	8	60	71.1	10.2	96	84.8	2.9	105	26.2	27.6	112
LM		51 34	103	32	5.5	4.0	90	90	16	11	56	64.8	10.0	83	81.2	3.2	95	27.5	26.0	103
LM		51 34	100	33	5.1	3.7	110	80	19	15	53	65.2	9.9	84	81.5	3.0	97	28.3	26.2	102

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL														
MISSISSIPPI														
TRIBBETT			STONEVILLE 256				100 PERCENT							
SLM	41	34	1.06	45	4.7	87	22	5.2	2.0	2.8	2	3	99	6.6
SLM	41	34	1.06	45	4.7	92	22	4.9	2.1	2.9	2	3	98	8.3
SLM	41	34	1.09	43	4.7	91	22	5.3	2.0	2.8	2	2	99	6.1
WATER VALLEY			DELTAPINE 16				90 PERCENT							
SLM	41	34	1.02	43	3.9	88	24	7.6	1.8	2.5	1	2	103	6.0
SLM	41	33	1.00	42	3.9	85	22	7.6	2.0	2.9	1	2	101	6.4
SLM	41	33	1.00	43	3.8	83	23	7.1	2.2	3.2	1	2	102	7.1
LM	51	33	0.99	42	3.1	79	22	7.2	3.8	5.2	2	2	97	7.4
MISSOURI														
BELL CITY			STONEVILLE 213				100 PERCENT							
M	31	34	1.07	41	3.3	90	23	6.6	1.2	2.0	0	2	106	5.3
SLM	41	34	1.04	42	3.6	86	22	6.5	2.0	2.7	2	2	98	5.9
SLM LT SP	42	34	1.06	42	3.7	86	23	6.1	2.1	2.9	3	4	96	7.2
CATRON			STONEVILLE 213				100 PERCENT							
SLM	41	35	1.08	45	4.0	91	24	7.2	3.2	3.9	1	2	100	6.4
LM LT SP	52	34	1.02	43	3.4	89	22	5.8	4.0	5.3	3	3	94	9.1
LM LT SP	52	34	1.01	43	3.3	90	22	6.3	4.5	5.8	3	3	94	8.7
HAYTI			DELTAPINE 16				80 PERCENT							
M	31	35	1.10	46	4.4	92	23	7.1	1.2	1.8	0	2	105	5.1
SLM	41	35	1.10	45	4.0	85	23	6.4	1.6	2.0	1	2	101	5.8
M LT SP	32	35	1.12	45	3.7	87	23	6.0	1.7	2.3	2	4	101	6.1
SENATH			AUBURN M				100 PERCENT							
SLM	41	35	1.10	44	3.8	86	24	6.7	1.9	2.8	2	3	100	5.2
SLM	41	35	1.09	45	3.5	86	22	7.6	1.8	2.9	1	2	101	6.2
LM	51	34	1.05	43	3.6	81	22	6.5	3.8	4.7	3	2	95	6.9
TENNESSEE														
BRADEN			DELTAPINE 16				95 PERCENT							
SLM	41	35	1.07	44	4.1	91	24	7.0	1.5	2.3	1	3	100	6.0
SLM	41	33	1.04	44	4.0	86	23	8.0	2.4	2.6	1	2	101	5.0
SLM	41	34	1.05	44	4.0	87	21	7.5	2.1	2.7	1	3	101	6.7
SLM LT SP	42	33	1.03	44	4.2	80	22	7.2	2.1	3.0	2	3	100	6.1

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
	Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL																				
MISSISSIPPI																				
TRIBBETT				STONEVILLE 256						100 PERCENT										
SLM		41 34	92	26	4.8	3.0	110	90	11	9	42	69.0	10.4	92	82.7	3.4	98	28.2	25.6	100
SLM		41 34	99	32	5.1	3.5	110	90	11	8	51	67.6	10.5	89	82.7	3.1	99	27.4	26.2	104
SLM		41 34	98	31	5.0	3.6	100	80	11	10	54	68.4	9.8	89	82.9	2.6	102	27.2	25.6	102
WATER VALLEY				DELTAPINE 16						90 PERCENT										
SLM		41 34	105	31	6.3	4.3	90	70	14	13	48	70.8	10.3	95	84.5	3.0	104	27.2	27.1	108
SLM		41 33	95	28	5.9	4.0	100	70	18	13	42	69.9	10.4	94	84.4	2.9	104	27.8	26.3	104
SLM		41 33	98	29	6.1	3.9	90	70	22	17	43	71.3	9.7	94	82.9	2.8	101	27.5	26.0	103
LM		51 33	100	31	6.4	5.1	70	60	35	29	47	67.2	10.4	88	83.8	2.8	103	27.7	25.5	101
MISSOURI																				
BELL CITY				STONEVILLE 213						100 PERCENT										
M		31 34	110	36	6.4	4.4	90	60	21	20	56	71.2	10.7	97	84.2	3.0	103	27.1	26.8	107
SLM		41 34	103	31	6.3	4.4	90	70	24	18	52	68.0	10.7	91	82.9	3.1	100	28.0	25.6	100
SLM LT SP		42 34	106	35	6.0	4.6	90	60	21	14	58	64.9	11.8	88	83.1	3.2	100	26.4	26.8	108
CATRON				STONEVILLE 213						100 PERCENT										
SLM		41 35	112	36	6.3	4.7	100	90	11	9	58	70.0	10.8	96	82.9	3.0	100	27.6	26.3	104
LM LT SP		52 34	99	32	5.4	3.7	100	70	20	12	53	65.1	11.4	87	81.5	4.0	93	27.4	25.6	102
LM LT SP		52 34	103	33	5.8	4.2	100	70	26	23	53	63.4	11.4	84	81.8	3.2	97	26.7	25.7	103
HAYTI				DELTAPINE 16						80 PERCENT										
M		31 35	115	37	6.8	5.5	110	80	11	11	61	71.2	10.2	96	84.1	2.4	105	26.5	27.0	109
SLM		41 35	108	34	6.0	4.2	100	80	11	11	60	68.3	10.5	91	84.7	3.0	104	27.0	26.6	106
M LT SP		32 35	120	40	6.9	5.1	110	90	8	6	73	65.2	11.5	87	82.5	3.3	98	26.5	25.9	105
SENATH				AUBURN M						100 PERCENT										
SLM		41 35	119	39	6.5	4.4	90	80	24	17	62	67.7	10.5	89	84.5	2.9	104	26.9	26.5	106
SLM		41 35	112	37	6.7	4.9	80	70	22	19	61	69.1	10.4	92	84.2	3.0	103	27.0	26.2	105
LM		51 34	100	31	6.3	4.4	80	70	25	18	55	65.4	10.3	85	81.0	3.5	94	27.0	26.0	104
TENNESSEE																				
BRADEN				DELTAPINE 16						95 PERCENT										
SLM		41 35	112	34	5.9	4.6	100	80	13	12	52	69.8	10.4	94	82.2	3.5	97	26.2	27.3	111
SLM		41 33	107	34	6.3	4.5	100	90	12	8	52	68.5	10.9	93	83.0	2.8	101	27.1	26.3	105
SLM		41 34	108	35	6.7	4.8	110	80	16	16	51	67.5	10.6	89	83.0	2.5	102	26.7	27.2	109
SLM LT SP		42 33	101	32	6.3	4.4	100	80	17	12	50	67.2	10.8	89	83.2	2.8	102	26.7	26.4	106

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH CENTRAL														
TENNESSEE														
DYERSBURG			STONEVILLE 213				80 PERCENT							
SLM	41	34	1.06	45	4.3	85	21	6.6	1.8	2.5	1	2	100	5.3
SLM LT SP	42	34	1.07	46	3.9	85	23	6.4	2.2	3.2	2	3	98	5.8
SLM LT SP	42	34	1.05	44	4.0	86	22	7.6	2.2	2.9	2	3	101	5.2
MCLEMORESVILLE			DELTAPINE 25				80 PERCENT							
M	31	34	1.06	46	4.5	84	22	8.4	1.2	1.9	1	3	104	4.5
SLM SP	43	34	1.06	47	4.3	85	23	7.3	1.6	2.4	4	5	90	5.0
SLM SP	43	33	1.05	43	4.0	85	22	7.6	1.2	2.4	3	5	93	5.7
SOUTH WEST														
SOUTH TEXAS														
BROWNSVILLE			TAMCOT SP37				100 PERCENT *							
SLM	41	33	1.04	43	3.5	75	21	7.1	1.1	1.8	1	2	102	5.2
SLM	41	33	1.03	43	3.5	77	21	6.8	1.4	2.4	1	3	103	5.8
SLM	41	33	1.03	42	3.4	76	21	7.4	1.5	2.3	1	2	103	5.3
DANEVANG			DELTAPINE 16				91 PERCENT							
SLM LT SP	42	34	1.10	48	4.7	79	23	7.0	3.9	4.8	2	4	100	6.4
SLM	41	35	1.13	47	4.7	83	23	7.6	2.2	2.6	1	3	102	5.2
SLM	41	35	1.13	47	4.1	80	23	7.3	3.2	3.6	1	3	102	6.1
RAYMONDVILLE			STONEVILLE 213				100 PERCENT							
M	31	33	1.04	49	5.2	75	24	5.3	1.0	1.6	1	3	101	5.7
SLM	41	34	1.05	48	4.7	83	22	6.6	2.0	2.5	1	2	100	6.7
SLM	41	34	1.03	47	5.1	83	21	6.7	1.4	2.1	2	3	99	5.6
RIO HONDO			STONEVILLE 7A				90 PERCENT							
SLM	41	34	1.07	48	4.6	82	23	6.1	1.5	2.2	1	3	102	5.2
SLM	41	34	1.06	47	4.6	87	24	6.0	2.0	2.5	1	3	103	5.6
1/ LM LT SP	52	34	1.06	46	3.9	83	21	6.0	3.9	5.1	3	3	95	6.7
ROBSTOWN			TAMCOT SP37				95 PERCENT							
2/ SLM	41	33	1.01	43	3.5	82	21	7.1	2.0	2.6	1	2	102	6.3
3/ LM	51	33	1.03	43	3.5	82	20	7.2	2.2	3.1	0	2	104	6.3
3/ LM	51	33	1.04	44	3.6	79	21	6.5	4.0	5.1	1	2	101	7.6

* 100 percent selected for tests, less than 100 percent in the area
1/ Reduced from 42 because of bark
2/ Reduced from 31 because of bark
3/ Reduced from 41 because of bark

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin-ning Poten-tial	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
			22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Grade		Staple																		
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH CENTRAL																				
TENNESSEE																				
DYERSBURG			STONEVILLE 213						80 PERCENT											
SLM		41 34	103	32	5.9	4.0	100	80	18	14	50	66.7	10.7	88	83.3	3.2	100	27.2	26.4	105
SLM LT SP		42 34	106	36	5.9	4.3	90	70	35	26	59	65.9	11.5	89	82.5	2.9	100	26.8	26.2	105
SLM LT SP		42 34	104	35	6.2	4.4	90	70	24	18	62	66.6	10.6	88	82.8	3.0	100	26.1	26.7	109
MCLEMORESVILLE			DELTAPINE 25						80 PERCENT											
M		31 34	109	35	6.6	4.8	110	90	8	8	58	70.9	10.7	97	83.6	3.1	102	26.3	27.1	110
SLM SP		43 34	107	34	6.3	4.6	110	80	20	15	60	60.9	12.7	82	83.1	3.4	99	25.4	27.2	112
SLM SP		43 33	110	36	6.5	4.8	100	70	16	12	64	62.2	12.5	84	82.6	3.2	99	26.8	26.6	107
SOUTH WEST																				
SOUTH TEXAS																				
BROWNSVILLE			TAMCOT SP37						100 PERCENT *											
SLM		41 33	99	34	6.3	4.8	80	60	21	19	58	70.2	10.5	95	86.6	2.7	110	27.3	26.8	107
SLM		41 33	96	32	6.2	4.5	80	60	22	16	54	69.9	10.8	95	85.8	2.9	107	27.3	26.1	104
SLM		41 33	97	33	6.4	4.8	80	60	28	21	52	71.6	10.1	96	85.2	2.9	106	27.1	26.0	104
DANEVANG			DELTAPINE 16						91 PERCENT											
SLM LT SP		42 34	110	39	6.1	4.8	100	90	24	19	62	67.9	11.6	94	84.4	3.4	102	25.6	27.3	112
SLM		41 35	118	41	6.4	5.0	100	90	21	17	69	69.3	11.2	96	83.7	3.1	102	26.2	26.9	109
SLM		41 35	114	39	6.4	5.0	100	80	18	14	70	70.5	11.5	99	85.2	2.9	106	26.6	26.7	108
RAYMONDVILLE			STONEVILLE 213						100 PERCENT											
M		31 33	103	36	5.3	3.8	110	90	14	10	52	68.5	11.0	93	83.4	3.2	101	26.5	27.0	109
SLM		41 34	103	36	6.0	4.8	120	100	12	11	55	68.6	10.6	92	83.1	2.9	101	27.7	26.5	105
SLM		41 34	100	33	5.8	4.3	120	100	11	8	53	68.0	10.9	92	83.1	3.1	100	27.6	26.0	103
RIO HONDO			STONEVILLE 7A						90 PERCENT											
SLM		41 34	107	39	5.5	4.4	100	90	10	8	65	68.3	11.0	93	84.0	3.3	102	26.6	27.3	110
SLM		41 34	112	40	6.0	4.4	110	90	12	9	66	70.1	10.8	96	84.5	2.8	105	27.1	27.0	108
1/ LM LT SP		52 34	115	41	5.9	4.6	110	80	23	15	68	63.4	11.2	83	84.0	3.2	102	28.0	26.1	102
ROBSTOWN			TAMCOT SP37						95 PERCENT											
2/ SLM		41 33	100	32	6.3	4.5	90	70	18	20	53	70.4	10.6	96	85.0	2.8	106	27.4	26.7	106
3/ LM		51 33	104	36	6.3	4.6	90	70	24	19	54	71.6	10.5	97	86.7	2.7	110	26.9	27.2	109
3/ LM		51 33	105	33	6.4	4.5	90	70	22	14	52	71.6	11.3	100	84.6	3.3	103	28.3	25.8	101

* 100 percent selected for tests, less than 100 percent in the area
1/ Reduced from 42 because of bark
2/ Reduced from 31 because of bark
3/ Reduced from 41 because of bark

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
	Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Grayness	Yellowness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST														
SOUTH TEXAS														
SAN JUAN			TPSA 1633				88 PERCENT							
SLM	41	33	1.06	45	4.3	84	23	6.1	1.8	2.5	2	3	100	5.8
SLM	41	34	1.08	45	4.3	86	22	5.8	2.5	3.4	2	3	100	6.2
SLM LT SP	42	33	1.06	45	4.2	83	21	6.1	3.2	4.2	3	4	95	6.6
CENTRAL TEXAS														
AQUILLA			TAMCOT SP37				100 PERCENT							
SGO	61	32	1.01	40	3.1	80	20	6.2	4.5	5.6	2	3	98	9.6
1/ SGO	61	31	1.04	42	3.3	80	22	6.4	5.6	7.0	3	3	94	10.0
2/ LM LT SP	52	31	1.00	43	3.8	88	21	6.2	3.1	4.5	3	3	95	8.9
BATESVILLE			STONEVILLE 213				90 PERCENT							
3/ SLM	41	35	1.13	46	4.1	78	22	6.5	2.8	3.6	1	4	102	5.8
M	31	35	1.12	46	4.5	80	22	6.4	1.6	1.9	1	3	104	5.5
SLM LT SP	42	34	1.10	46	4.4	81	22	7.1	1.7	2.5	2	3	98	6.1
NAVASOTA			DELTAPINE 16				95 PERCENT							
M	31	35	1.14	45	4.8	81	22	7.1	1.3	1.7	1	3	104	3.9
SLM	41	35	1.14	45	4.4	80	24	7.5	1.3	2.3	2	3	99	6.0
SLM	41	35	1.11	43	3.7	83	24	7.3	2.0	2.8	1	1	100	5.8
NORTHWEST TEXAS														
HALE CENTER			GSA71				70 PERCENT							
4/ SLM LT SP	42	32	0.97	47	4.0	84	22	7.4	1.9	2.7	2	4	99	6.7
5/ SLM SP	43	32	0.95	45	3.4	85	21	7.4	2.0	3.2	4	6	91	8.1
2/ LM LT SP	52	32	0.95	46	3.6	86	22	7.5	2.6	3.2	3	4	96	8.2
LOOP			GSA71				75 PERCENT							
M LT SP	32	31	0.90	45	4.5	85	21	6.4	2.0	3.2	2	4	101	7.6
SLM	41	32	0.97	46	4.3	84	22	7.3	2.0	3.0	1	2	102	7.2
4/ SLM LT SP	42	32	0.99	45	3.7	85	22	6.9	2.7	3.9	3	4	96	7.1
LUBBOCK			COKER 312				100 PERCENT*							
2/ LM LT SP	52	35	1.12	45	3.4	85	24	6.2	3.6	5.1	3	5	97	8.8
5/ SLM SP	43	35	1.06	39	3.0	80	23	6.6	2.7	4.2	4	6	89	7.5
6/ LM SP	53	35	1.16	40	3.3	85	23	6.9	4.2	5.3	4	6	88	8.9

* 100 percent selected for tests, less than 100 percent in the area

1/ Reduced from 51 because of bark
2/ Reduced from 42 because of bark
3/ Reduced from 31 because of bark
4/ Reduced from 32 because of bark
5/ Reduced from 33 because of bark
6/ Reduced from 43 because of bark

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
Grade		Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH WEST																				
SOUTH TEXAS																				
SAN JUAN			TPSA 1633						88 PERCENT											
SLM		41	33	101	34	5.3	3.8	110	80	12	9	55	68.7	10.9	93	84.8	2.6	106	27.4	26.3	104
SLM		41	34	101	34	5.4	3.8	120	80	12	12	58	68.1	10.6	91	82.7	3.7	97	27.1	26.7	107
SLM LT SP		42	33	102	34	5.4	3.9	110	90	19	15	55	65.9	11.2	88	84.2	3.0	103	28.1	26.0	102
CENTRAL TEXAS																				
AQUILLA			TAMCOT SP37						100 PERCENT											
SGO		61	32	95	28	5.9	3.8	70	60	40	30	49	68.2	11.6	94	84.6	3.2	103	27.8	25.9	102
1/ SGO		61	31	96	30	5.7	3.8	70	60	34	31	47	67.0	11.5	91	85.1	3.5	103	28.5	25.6	99
2/ LM LT SP		52	31	80	24	5.0	3.4	90	70	26	20	38	66.7	11.6	91	82.9	2.7	101	28.2	26.0	102
BATESVILLE			STONEVILLE 213						90 PERCENT											
3/ SLM		41	35	106	37	6.5	4.9	90	70	26	17	60	68.9	12.5	99	86.1	2.9	108	26.3	27.4	111
M		31	35	101	32	6.4	4.5	100	80	23	15	56	70.3	11.6	99	84.5	2.8	105	27.0	26.7	107
SLM LT SP		42	34	101	32	6.1	4.4	100	70	24	16	54	66.4	11.5	90	84.4	2.9	104	27.4	27.2	108
NAVASOTA			DELTAPINE 16						95 PERCENT											
M		31	35	111	36	6.5	4.7	100	90	13	8	65	70.2	11.2	97	84.3	2.9	104	27.2	26.4	105
SLM		41	35	110	37	6.4	4.8	100	80	14	12	61	68.3	10.7	91	83.5	2.7	103	28.4	25.4	99
SLM		41	35	112	37	6.5	4.9	90	70	20	15	63	70.5	9.5	92	83.3	2.5	103	28.3	26.1	102
NORTHWEST TEXAS																				
HALE CENTER			GSA71						70 PERCENT											
4/ SLM LT SP		42	32	98	31	5.8	4.7	90	80	16	12	44	63.9	12.6	88	83.4	3.5	99	27.7	25.9	102
5/ SLM SP		43	32	93	30	6.0	4.3	80	60	29	22	43	60.9	13.3	84	84.8	3.2	104	27.2	25.8	103
2/ LM LT SP		52	32	102	33	6.0	4.5	90	70	22	18	45	62.7	12.4	85	83.7	3.0	102	27.7	25.4	100
LOOP			GSA71						75 PERCENT											
M LT SP		32	31	94	29	5.9	4.4	110	80	16	14	43	66.8	12.4	94	82.5	3.0	99	26.7	25.9	104
SLM		41	32	99	32	6.1	4.6	90	80	21	17	45	71.9	9.9	96	81.6	2.8	98	28.0	26.0	102
4/ SLM LT SP		42	32	96	29	5.9	4.4	90	70	20	17	49	66.6	11.2	89	83.0	2.9	101	27.9	25.7	101
LUBBOCK			COKER 312						100 PERCENT*											
2/ LM LT SP		52	35	108	37	6.0	4.6	70	60	58	42	53	64.5	13.0	91	82.7	3.0	100	26.8	26.0	104
5/ SLM SP		43	35	101	34	6.4	4.6	70	60	57	52	45	57.2	13.3	77	84.3	3.3	102	27.4	25.4	101
6/ LM SP		53	35	106	35	6.0	4.5	70	60	43	31	55	58.9	13.4	80	83.6	3.5	100	26.7	25.8	104

* 100 percent selected for tests, less than 100 percent in the area
1/ Reduced from 51 because of bark
2/ Reduced from 42 because of bark
3/ Reduced from 31 because of bark
4/ Reduced from 32 because of bark
5/ Reduced from 33 because of bark
6/ Reduced from 43 because of bark

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH WEST														
NORTHWEST TEXAS														
LUBBOCK			COKER 5110				100 PERCENT							
1/ SLM LT SP	42	34	1.08	44	3.5	85	23	6.2	3.4	4.3	2	4	99	7.8
2/ SLM SP	43	35	1.11	40	3.3	82	24	6.2	4.5	5.8	4	6	92	8.0
3/ LM SP	53	34	1.09	40	2.9	77	22	7.3	4.1	5.7	3	5	94	8.6
WEST														
ARIZONA														
BOWIE			STONEVILLE 213				94 PERCENT							
M LT SP	32	35	1.06	42	3.7	83	22	7.3	1.8	2.4	1	4	102	5.8
M	31	35	1.06	44	4.5	77	20	8.2	1.3	2.3	1	3	104	6.2
M	31	34	1.07	44	4.6	83	20	7.4	1.4	2.1	0	3	105	6.1
BUCKEYE			DELTAPINE 61				100 PERCENT							
SLM	41	35	1.10	44	5.0	87	24	7.1	1.4	2.4	1	3	102	5.6
SLM	41	35	1.08	44	4.9	86	23	6.2	1.4	2.0	2	3	99	5.7
SLM	41	35	1.11	45	5.0	86	23	6.8	1.4	2.2	1	3	101	6.3
CASA GRANDE			DELTAPINE 61				93 PERCENT							
SLM	41	36	1.14	44	4.7	82	22	7.9	2.4	2.8	1	3	103	5.8
M	31	36	1.14	45	4.8	80	22	7.3	1.3	1.8	0	2	105	5.6 4/
SLM	41	35	1.08	44	4.2	81	22	7.7	1.7	2.2	1	2	103	6.4
ELOY			DELTAPINE 66				70 PERCENT							
M	31	35	1.08	43	4.6	82	22	7.4	0.9	1.7	1	3	101	4.8
SLM	41	35	1.06	42	4.1	86	22	6.6	1.5	2.2	2	3	98	5.2
SLM	41	35	1.12	43	4.4	84	21	5.6	2.0	3.0	2	2	97	6.6
GILA BEND			STONEVILLE 213				93 PERCENT							
M	31	34	1.03	42	5.0	87	22	5.9	1.2	1.5	2	4	100	6.0
M	31	34	1.07	44	5.0	84	22	6.0	0.9	1.8	1	4	102	6.7
SLM	41	34	1.04	44	4.8	85	21	5.9	1.7	2.6	2	3	99	7.5
MOHAVE VALLEY			STONEVILLE 256				100 PERCENT							
SLM	41	34	1.10	43	4.5	87	21	5.2	2.0	2.6	2	3	98	6.0
M	31	34	1.09	41	3.8	86	20	5.2	1.3	1.9	0	3	107	5.8 4/
M	31	34	1.10	42	3.9	83	21	5.9	0.8	2.1	0	2	104	4.2

1/ Reduced from 32 because of bark
2/ Reduced from 33 because of bark
3/ Reduced from 43 because of bark
4/ Cotton stuck to processing rolls

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
	Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH WEST																				
NORTHWEST TEXAS																				
LUBBOCK			COKER 5110						100 PERCENT											
1/ SLM LT SP		42 34	115	39	6.6	4.8	70	60	41	29	61	65.4	12.2	90	83.1	3.7	98	26.4	26.6	108
2/ SLM SP		43 35	106	35	6.1	4.4	70	60	52	40	51	59.2	13.8	82	84.2	3.6	101	27.1	25.4	101
3/ LM SP		53 34	108	35	6.7	4.8	70	60	51	37	50	60.1	13.6	83	83.6	3.3	101	27.2	25.7	102
WEST																				
ARIZONA																				
BOWIE			STONEVILLE 213						94 PERCENT											
M LT SP		32 35	95	29	6.4	4.4	90	70	24	21	46	70.5	11.5	99	83.6	2.9	102	27.5	26.0	103
M		31 35	94	29	5.9	4.5	90	70	20	18	46	70.6	10.1	94	83.8	2.6	104	26.9	26.9	108
M		31 34	94	29	6.2	4.0	90	70	16	12	51	71.8	10.4	97	83.5	2.6	103	27.0	26.1	104
BUCKEYE			DELTAPINE 61						100 PERCENT											
SLM		41 35	107	36	6.0	4.3	100	70	21	17	53	71.3	10.8	98	82.5	3.3	98	27.1	26.8	107
SLM		41 35	96	27	5.3	3.5	90	70	17	15	47	70.0	10.6	95	83.0	3.2	100	28.3	25.4	99
SLM		41 35	101	32	5.9	3.9	100	80	18	16	51	69.3	10.6	93	83.7	2.6	104	27.8	25.4	100
CASA GRANDE			DELTAPINE 61						93 PERCENT											
SLM		41 36	112	37	6.3	4.8	110	90	14	9	62	70.3	11.2	97	84.2	2.6	105	26.7	26.8	108
M		31 36	104	34	6.4	4.5	100	80	14	12	55	71.7	10.2	97	84.1	2.6	105	27.1	26.8	107
SLM		41 35	100	33	6.2	4.5	90	70	19	15	53	68.9	9.5	89	84.2	2.1	107	28.0	26.0	102
ELOY			DELTAPINE 66						70 PERCENT											
M		31 35	102	32	6.4	4.7	90	80	10	10	52	71.7	10.8	98	83.8	2.7	104	27.1	26.6	106
SLM		41 35	97	29	5.5	3.6	100	70	9	8	49	68.2	11.0	92	82.9	2.8	101	27.5	26.0	103
SLM		41 35	104	34	5.8	4.0	90	70	19	15	54	68.7	10.4	91	82.5	2.5	101	27.2	25.5	102
GILA BEND			STONEVILLE 213						93 PERCENT											
M		31 34	85	25	4.8	3.5	100	70	12	12	36	68.9	11.8	97	83.2	3.1	101	27.8	26.6	105
M		31 34	92	29	5.2	3.8	90	70	17	18	42	68.3	11.2	93	82.4	2.4	101	27.4	26.0	103
SLM		41 34	91	27	5.3	3.8	90	70	17	14	41	70.3	10.8	96	84.2	2.9	104	27.9	26.0	102
MOHAVE VALLEY			STONEVILLE 256						100 PERCENT											
SLM		41 34	79	23	4.7	3.0	90	60	20	16	42	67.2	10.8	89	82.7	3.4	98	27.4	26.2	104
M		31 34	92	28	4.9	3.4	90	60	22	17	50	72.3	10.2	98	83.8	2.6	104	26.6	27.1	109
M		31 34	93	29	5.2	3.7	80	60	16	15	50	71.8	9.6	95	84.0	2.9	103	27.2	25.8	103

1/ Reduced from 32 because of bark
2/ Reduced from 33 because of bark
3/ Reduced from 43 because of bark

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976 --Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
	Grade	Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
WEST														
ARIZONA														
ROLL			DELTAPINE 61				95 PERCENT							
SLM	41	35	1.12	44	4.3	84	23	7.8	1.6	2.6	1	3	100	7.2
SLM	41	35	1.11	44	4.5	83	23	7.1	1.6	2.5	1	3	101	6.8
M	31	35	1.09	45	5.1	85	23	6.6	1.2	1.7	1	3	104	6.7
M	31	35	1.11	44	4.5	85	23	7.6	1.6	2.4	0	2	105	6.3
WENDEN			DELTAPINE 16				90 PERCENT							
M	31	34	1.10	44	4.4	84	22	7.6	1.0	1.9	1	3	102	5.1
M	31	35	1.11	43	4.4	80	22	7.6	1.0	1.8	1	3	104	5.7
SM	21	35	1.11	44	4.4	82	22	8.2	0.8	1.5	0	2	107	5.6
CALIFORNIA														
ARVIN			ACALA SJ-2				100 PERCENT							
SLM	41	36	1.16	46	4.0	89	27	6.9	1.5	2.2	2	3	98	7.6
SLM	41	36	1.15	45	3.9	91	25	6.3	1.7	2.2	2	3	100	4.5
SLM	41	36	1.12	45	3.8	89	26	6.3	1.8	2.8	1	2	100	6.4 1/
BAKERSFIELD			ACALA SJ-2				99 PERCENT							
SLM	41	36	1.13	45	4.0	88	27	6.7	2.7	3.3	1	3	101	5.5
SLM	41	35	1.11	45	4.0	92	25	6.6	0.7	1.3	1	2	101	5.6
M	31	35	1.11	45	3.9	84	24	6.4	1.2	2.0	0	3	105	5.2 1/
BAKERSFIELD			ACALA SJ-2				98 PERCENT							
SLM	41	36	1.14	45	4.2	93	29	6.3	1.8	2.4	2	2	99	4.8
SLM	41	35	1.11	45	3.4	90	26	6.5	1.5	2.4	1	3	101	5.6
SLM	41	35	1.09	45	4.0	89	26	5.9	1.5	2.2	2	3	98	6.4
BUTTONWILLOW			ACALA SJ-2				100 PERCENT							
SLM	41	36	1.16	45	3.6	87	26	6.5	1.9	2.6	1	2	102	7.1
M	31	36	1.13	46	4.0	89	26	6.4	1.2	1.4	0	2	105	4.5
M	31	36	1.13	46	4.1	92	26	6.2	0.9	1.8	0	3	105	4.9
CARUTHERS			ACALA SJ-2				100 PERCENT							
SLM+	40	36	1.11	45	4.0	97	27	5.7	1.6	2.0	1	3	101	5.8
SLM+	40	36	1.11	46	4.0	96	27	5.5	1.4	2.2	1	2	103	5.4
2/ LM	51	36	1.12	45	3.8	93	27	5.4	1.7	2.9	2	2	96	5.8

1/ Cotton stuck to processing rolls
2/ Reduced from 41 because of bark

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
Grade		Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
WEST																				
ARIZONA																				
ROLL				DELTAPINE 61						95 PERCENT										
SLM		41 35	100	31	5.8	4.3	80	60	26	21	50	70.7	10.9	97	84.1	2.7	104	27.8	26.4	104
SLM		41 35	100	32	5.9	4.2	80	60	22	16	53	69.9	10.6	95	83.9	3.0	103	28.0	26.0	102
M		31 35	96	30	5.5	4.0	90	70	22	17	45	69.8	10.5	94	83.5	2.6	103	27.1	26.6	106
M		31 35	95	30	6.0	4.1	80	60	25	19	50	71.6	9.1	93	84.8	2.5	107	28.1	26.2	103
WENOEN				DELTAPINE 16						90 PERCENT										
M		31 34	101	32	6.1	4.3	100	70	14	12	47	70.9	11.0	98	83.4	3.0	101	27.7	26.7	105
M		31 35	103	32	6.5	4.4	80	70	15	14	52	71.1	10.5	97	84.5	2.5	106	27.7	26.0	103
SM		21 35	103	33	6.5	4.7	90	70	14	11	55	74.0	9.5	98	83.3	2.4	104	26.7	26.7	107
CALIFORNIA																				
ARVIN				ACALA SJ-2						100 PERCENT										
SLM		41 36	128	44	6.2	4.8	90	70	25	17	73	67.9	11.0	92	84.4	3.3	103	27.7	25.8	102
SLM		41 36	124	43	6.1	4.6	80	70	21	14	75	69.0	11.3	95	83.1	2.8	102	27.4	25.9	103
SLM		41 36	124	42	6.1	4.7	100	70	21	14	73	68.8	10.6	92	83.6	2.8	103	27.7	25.6	101
BAKERSFIELD				ACALA SJ-2						99 PERCENT										
SLM		41 36	125	44	5.7	4.7	90	70	22	19	74	67.5	11.0	91	83.5	3.2	101	27.4	25.7	102
SLM		41 35	123	42	6.0	4.4	80	70	24	17	72	69.2	10.9	94	83.0	3.0	100	28.0	25.8	101
M		31 35	120	42	6.5	5.0	80	70	19	14	72	71.8	10.5	98	84.7	2.6	106	27.3	26.3	105
BAKERSFIELD				ACALA SJ-2						98 PERCENT										
SLM		41 36	133	48	5.6	4.7	90	80	21	17	77	67.4	10.8	90	83.1	3.1	100	28.0	25.6	100
SLM		41 35	125	43	6.2	4.7	80	60	24	18	73	68.0	11.3	93	84.3	2.9	104	28.1	25.6	100
SLM		41 35	124	42	6.0	4.6	90	70	17	17	71	66.6	11.0	89	82.7	2.9	100	28.0	25.3	99
BUTTONWILLOW				ACALA SJ-2						100 PERCENT										
SLM		41 36	134	45	6.5	5.0	80	60	26	22	77	70.7	11.1	98	84.8	3.2	104	27.6	26.3	104
M		31 36	132	45	6.4	4.9	100	80	16	12	78	71.3	11.1	99	83.7	2.9	103	27.8	26.0	102
M		31 36	128	44	6.1	4.7	100	70	14	13	71	71.4	10.8	98	82.4	3.4	97	27.5	26.0	103
CARUTHERS				ACALA SJ-2						100 PERCENT										
SLM+		40 36	133	47	6.3	4.8	90	70	22	22	76	68.8	10.6	92	84.4	2.6	105	27.1	26.4	105
SLM+		40 36	131	44	6.0	4.4	90	90	13	14	72	69.8	10.7	95	84.3	2.9	104	27.2	26.4	105
1/ LM		51 36	130	45	5.7	4.5	90	80	17	15	78	65.6	10.3	85	83.1	2.7	102	27.2	25.5	102

1/ Reduced from 41 because of bark

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976 --Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Grayness	Yellowness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
WEST														
CALIFORNIA														
CHOWCHILLA			ACALA SJ-4				92 PERCENT							
M	31	36	1.13	47	4.2	93	28	5.8	1.3	2.2	0	3	104	5.1
SLM	41	36	1.10	46	4.3	97	27	5.8	1.5	2.3	0	2	104	6.3
SLM	41	36	1.15	48	4.4	95	28	6.3	1.7	2.7	2	3	100	5.7
COALINGA			ACALA SJ-2				100 PERCENT							
SLM	41	35	1.16	46	4.0	90	26	6.7	2.1	3.0	3	2	95	6.4
SLM	41	35	1.13	43	3.2	92	27	6.4	1.6	2.0	1	2	103	6.6
SLM+	40	36	1.13	47	3.8	91	26	6.4	1.2	1.7	1	3	102	6.8
FIREBAUGH			ACALA SJ-2				98 PERCENT							
M	31	36	1.12	45	4.2	91	27	6.1	1.1	1.7	1	3	103	5.3
SLM+	40	36	1.15	47	4.2	93	27	5.8	1.2	2.4	1	2	103	6.2
SLM	41	36	1.13	46	4.1	91	26	6.2	1.2	2.3	1	3	103	5.9
FIVE POINTS			ACALA SJ-2				96 PERCENT							
SLM+	40	36	1.10	46	3.8	94	29	6.5	1.2	1.8	0	2	104	3.4
SLM	41	36	1.17	47	4.0	89	26	6.0	1.9	2.5	1	2	102	5.2
SLM	41	36	1.14	47	4.3	90	27	6.6	2.1	3.0	2	3	97	6.4
HURON			ACALA SJ-2				100 PERCENT							
SLM+	40	36	1.16	46	4.2	89	27	6.2	1.4	2.7	1	2	103	5.1
SLM+	40	35	1.13	45	3.9	92	27	6.0	1.2	1.9	0	2	104	5.2
SLM	41	36	1.15	46	3.7	87	26	6.6	1.9	3.2	1	2	100	5.4
KERMAN			ACALA SJ-2				85 PERCENT							
SLM	41	36	1.14	47	4.1	97	28	5.6	1.2	2.2	1	3	101	5.8
SLM	41	36	1.13	47	4.1	95	27	6.0	1.3	1.9	1	2	101	5.9
M	31	36	1.15	47	4.0	90	27	6.4	1.1	2.0	1	3	103	6.3
LOST HILLS			ACALA SJ-2				99 PERCENT							
SLM	41	35	1.12	43	3.8	92	27	5.9	1.6	2.7	2	3	100	5.7
M	31	35	1.10	43	3.8	91	26	5.8	1.3	2.1	1	2	103	4.4
SLM	41	35	1.12	45	3.8	89	25	6.1	1.8	2.7	1	2	100	5.8

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin-ning Poten-tial	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
	Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
WEST																				
CALIFORNIA																				
CHOWCHILLA				ACALA SJ-4					92 PERCENT											
M		31 36	136	48	5.8	4.7	100	80	13	13	73	69.5	11.0	95	84.0	2.6	104	27.0	26.1	104
SLM		41 36	135	46	6.0	4.6	100	80	13	9	73	69.4	10.9	95	82.6	3.4	98	27.7	26.1	103
SLM		41 36	141	50	6.4	5.5	100	80	24	19	85	65.1	10.4	84	83.5	2.7	103	27.2	26.1	104
COALINGA				ACALA SJ-2					100 PERCENT											
SLM		41 35	128	47	6.8	5.4	70	60	30	20	84	68.8	11.4	95	85.1	2.8	106	26.6	26.5	107
SLM		41 35	135	47	6.3	5.0	90	60	16	16	82	70.2	10.8	96	84.6	3.0	104	27.2	26.3	105
SLM+		40 36	130	45	5.9	5.0	80	70	16	13	76	69.3	11.2	96	84.1	3.0	103	27.2	26.4	105
FIREBAUGH				ACALA SJ-2					98 PERCENT											
M		31 36	125	44	5.8	4.8	80	70	18	17	72	71.3	10.9	98	83.5	2.6	103	26.9	26.1	105
SLM+		40 36	127	44	5.7	4.6	90	80	20	14	72	70.5	10.6	96	83.0	3.7	98	27.3	26.0	103
SLM		41 36	123	43	6.1	4.7	90	70	21	13	72	70.4	10.7	96	83.0	3.2	100	26.3	26.8	109
FIVE POINTS				ACALA SJ-2					96 PERCENT											
SLM+		40 36	147	53	6.4	5.2	90	80	21	15	87	71.4	10.9	98	84.0	2.6	104	26.8	26.3	106
SLM		41 36	133	48	6.0	4.7	100	80	14	11	80	69.9	10.7	95	83.3	3.1	101	26.7	26.6	107
SLM		41 36	126	45	5.8	4.6	80	70	19	15	78	66.6	10.6	88	82.9	3.0	100	26.6	25.5	103
HURON				ACALA SJ-2					100 PERCENT											
SLM+		40 36	133	47	6.3	4.9	100	80	19	13	77	71.6	11.0	99	84.3	3.3	102	27.5	26.1	103
SLM+		40 35	132	48	6.0	4.6	80	70	23	16	79	71.2	10.6	97	83.7	3.2	101	27.5	25.7	102
SLM		41 36	133	47	6.1	5.2	80	70	20	14	79	67.1	10.1	87	84.3	2.6	105	28.1	25.8	101
KERMAN				ACALA SJ-2					85 PERCENT											
SLM		41 36	134	49	6.3	5.0	80	80	21	16	79	70.9	10.7	97	84.4	3.0	104	28.3	25.7	100
SLM		41 36	134	46	6.5	5.0	90	80	18	16	81	69.7	10.9	95	84.0	2.6	104	27.0	26.5	106
M		31 36	132	46	6.5	4.7	90	70	18	18	76	69.0	11.1	94	84.1	2.7	104	27.0	26.7	107
LOST HILLS				ACALA SJ-2					99 PERCENT											
SLM		41 35	123	42	5.7	4.5	80	70	25	19	66	69.9	10.8	95	82.4	2.7	100	27.5	26.4	105
M		31 35	120	43	5.2	4.4	90	70	18	12	67	71.9	10.5	98	84.6	3.0	104	27.6	25.7	102
SLM		41 35	123	42	5.9	4.6	80	70	22	15	73	69.0	10.5	92	84.1	2.5	105	27.6	25.9	102

Table 6.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
WEST														
CALIFORNIA														
LOST HILLS			ACALA SJ-4				100 PERCENT							
SLM+	40	36	1.11	45	3.9	95	27	6.3	1.4	2.2	0	2	104	5.4
SLM	41	36	1.13	46	3.8	95	28	6.4	1.2	2.0	1	3	103	5.9
SLM	41	36	1.13	47	4.3	99	27	6.1	2.2	2.7	1	3	101	6.6
SHAFTER			ACALA SJ-2				100 PERCENT							
SLM	41	35	1.12	47	4.4	99	28	5.6	1.1	1.8	1	3	101	5.1
SLM	41	35	1.13	45	3.8	88	26	6.1	1.9	2.5	1	2	100	5.4 1/
SLM	41	35	1.12	45	3.7	89	26	6.2	1.2	2.2	2	3	99	5.9
TULARE			ACALA SJ-4				100 PERCENT							
SLM	41	36	1.12	45	3.9	94	27	6.0	1.4	2.6	2	3	100	5.3
SLM	41	36	1.09	44	3.7	97	27	5.7	1.6	2.3	1	3	102	5.4 1/
SLM	41	36	1.13	46	4.0	96	26	5.9	2.1	2.4	2	2	99	5.3
WESTMORLAND			DELTAPINE 61				100 PERCENT							
M LT SP	32	35	1.07	45	5.0	88	24	6.1	1.1	1.8	1	3	101	6.7
M	31	35	1.06	44	4.8	84	23	6.6	1.1	2.0	0	2	104	5.8
M	31	34	1.10	44	4.6	83	24	7.1	1.3	1.9	0	2	104	4.5

1/ Cotton stuck to processing rolls

Table 6a.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1976--Continued

State, Production Area, Chronological sampling, and Classification			Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spinning Potential	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
	Grade	Staple	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflctance	Yellowness	Composite	Reflctance	Yellowness	Composite	Reflctance	Blueness	Composite
Name	Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
WEST																				
CALIFORNIA																				
LOST HILLS			ACALA SJ-4						100 PERCENT											
SLM+		40 36	139	50	6.3	4.8	90	70	19	17	77	71.2	10.8	98	84.5	2.8	105	27.0	26.6	106
SLM		41 36	139	49	6.4	5.2	90	70	22	17	82	70.6	10.8	97	82.9	2.7	101	26.9	26.3	105
SLM		41 36	136	48	6.2	4.7	90	70	24	19	77	68.6	11.1	94	83.4	3.0	101	27.0	25.5	102
SHAFTER			ACALA SJ-2						100 PERCENT											
SLM		41 35	130	45	6.1	4.6	80	60	25	19	74	68.4	10.8	92	82.8	2.6	102	27.8	25.9	102
SLM		41 35	125	43	6.2	4.4	80	60	25	20	72	69.2	10.6	93	83.8	3.1	102	27.7	26.2	103
SLM		41 35	126	44	6.4	4.7	70	60	28	23	76	66.7	11.2	89	84.5	2.8	105	27.3	26.1	104
TULARE			ACALA SJ-4						100 PERCENT											
SLM		41 36	135	48	6.1	4.8	80	70	19	15	77	68.7	10.8	93	84.3	2.8	104	28.8	24.9	96
SLM		41 36	133	47	6.1	4.7	90	70	17	12	78	69.8	10.5	94	83.6	3.1	102	27.6	25.6	101
SLM		41 36	134	49	6.1	4.8	90	70	27	21	82	66.3	10.6	87	83.8	2.5	104	27.7	25.8	102
WESTMORLAND			DELTAPINE 61						100 PERCENT											
M LT SP		32 35	97	30	5.4	3.7	90	80	21	19	47	67.8	10.9	91	83.7	2.6	104	27.9	26.0	102
M		31 35	99	32	5.4	3.9	80	70	22	17	47	72.1	9.4	95	83.1	2.6	102	28.2	26.0	102
M		31 34	99	31	5.5	3.9	90	80	14	11	53	71.9	9.5	95	83.3	2.7	102	28.0	25.5	100

Table 7.--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1976

State, Production Area, Chronological sampling and Classification			Digital Fibrograph		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & Card waste
Grade		Staple	2.5% span length	50/2.5 unif.		Zero Gage	1/8" Gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Composite color	
Name	Code	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.
SOUTH EAST														
ALABAMA														
ALBERTA			COKER 310				95 PERCENT							
SLM	41	34	1.10	43	4.3	86	26	5.7	1.6	2.2	1	3	102	6.8
SLM	41	34	1.09	42	3.9	90	23	5.6	2.6	3.7	1	2	102	8.4
SLM	41	34	1.10	45	4.6	79	24	7.7	1.6	2.2	1	2	100	6.4
GEORGIA														
MADISON			COKER 310				100 PERCENT							
SLM	41	35	1.14	45	4.6	86	25	6.4	2.7	4.6	2	3	96	6.9
SLM LT SP	42	35	1.14	45	4.5	84	23	6.2	2.9	3.7	3	3	95	7.1
SLM LT SP	42	35	1.16	43	4.4	85	23	7.0	3.2	4.0	2	4	97	7.1
NORTH CAROLINA														
DUNN			COKER 310				100 PERCENT							
SLM	41	36	1.18	48	4.6	92	27	6.6	1.4	1.8	2	3	98	5.7
SLM	41	36	1.14	45	4.5	84	25	7.0	1.7	2.0	2	2	100	6.0
SLM	41	35	1.13	44	4.0	90	25	6.5	2.2	3.3	2	3	100	6.7
SOUTH CAROLINA														
HARTSVILLE			COKER 310				100 PERCENT							
SLM	41	36	1.19	46	4.3	90	26	6.6	2.1	2.8	1	3	100	5.9
SLM	41	36	1.19	45	4.3	84	26	6.4	2.4	3.1	1	2	100	5.9
SLM LT SP	42	36	1.16	45	4.3	87	24	6.6	2.5	3.4	3	3	96	7.0
SOUTH CENTRAL														
MISSISSIPPI														
LAKE CORMORANT			COKER 310				100 PERCENT							
SLM	41	35	1.11	41	3.7	91	27	5.6	2.4	3.3	1	3	101	6.6
SLM	41	35	1.13	43	3.8	91	26	6.1	2.6	3.4	2	2	99	6.6
SLM	41	35	1.12	43	3.7	92	24	5.6	3.0	4.1	2	2	99	7.3
WEST														
NEW MEXICO														
TULAROSA			ACALA 1517-V				96 PERCENT							
SLM+	40	37	1.20	48	3.8	89	26	6.3	2.6	2.9	1	2	103	6.4
SLM	41	37	1.18	47	3.5	84	26	6.7	3.1	4.0	0	2	104	7.7
LM+	50	37	1.19	45	3.3	90	29	6.2	4.6	5.7	1	2	102	14.4
WEST TEXAS														
CLINT			ACALA 1517-70				90 PERCENT							
SLM	41	36	1.18	45	3.5	85	26	6.1	2.8	3.6	1	2	103	7.8
LM+	50	36	1.19	44	2.8	87	29	6.4	3.0	3.6	1	1	102	9.4

Table 7a.--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1976

State, Production Area, Chronological sampling, and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns.		Spin-ning Poten-tial	Color - 22s gray yarn			Color-22s blchd. yarn			Color - 22s dyed yarn		
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex		Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Yellow-ness	Com-posite	Reflct-ance	Blue-ness	Com-posite
Grade	Staple																		
Name Code	32d In.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
SOUTH EAST																			
ALABAMA																			
ALBERTA		COKER 310						95 PERCENT											
SLM	41 34	106	34	5.1	3.8	110	90	24	8	56	69.3	11.1	95	84.0	3.0	103	27.2	26.1	104
SLM	41 34	104	34	5.4	3.8	90	80	26	24	56	69.7	10.4	93	83.4	2.6	103	27.7	26.0	103
SLM	41 34	102	35	6.1	4.6	120	80	11	10	57	69.6	9.6	90	83.3	2.4	104	27.2	26.3	105
GEORGIA																			
MADISON		COKER 310						100 PERCENT											
SLM	41 35	116	40	5.5	4.5	110	90	19	14	66	67.5	11.1	91	82.0	3.7	95	27.2	26.2	104
SLM LT SP	42 35	112	36	5.5	4.2	100	90	15	13	59	64.2	11.4	85	82.1	4.9	91	27.0	26.7	107
SLM LT SP	42 35	111	39	5.5	4.2	110	90	17	16	57	66.0	11.6	89	82.4	3.6	97	27.3	26.1	104
NORTH CAROLINA																			
DUNN		COKER 310						100 PERCENT											
SLM	41 36	127	46	5.8	4.6	110	100	14	10	77	66.8	11.0	89	82.3	3.8	96	26.3	26.8	109
SLM	41 36	118	42	5.9	5.0	110	90	16	10	71	69.5	10.2	92	83.4	3.0	101	28.0	26.0	102
SLM	41 35	119	42	5.8	4.7	100	90	19	17	70	68.5	10.8	92	83.9	2.8	103	26.9	26.1	105
SOUTH CAROLINA																			
HARTSVILLE		COKER 310						100 PERCENT											
SLM	41 36	125	44	5.9	4.6	100	80	28	17	75	68.1	10.6	91	81.9	3.8	95	26.6	26.3	106
SLM	41 36	121	42	6.0	4.7	100	90	20	17	72	69.3	10.1	92	82.8	2.6	102	27.2	25.9	103
SLM LT SP	42 36	118	42	6.0	4.7	90	70	30	26	73	64.3	11.7	86	83.3	3.3	100	27.0	26.3	105
SOUTH CENTRAL																			
MISSISSIPPI																			
LAKE CORMORANT		COKER 310						100 PERCENT											
SLM	41 35	113	37	5.5	3.8	100	80	17	16	55	69.4	10.3	93	84.7	2.8	105	27.0	26.1	104
SLM	41 35	109	37	5.0	3.8	100	80	15	13	59	67.9	10.1	89	82.2	3.0	99	27.5	26.2	104
SLM	41 35	104	33	5.3	3.8	90	60	27	18	56	68.5	9.9	89	82.1	3.1	98	27.9	25.4	100
WEST																			
NEW MEXICO																			
TULAROSA		ACALA 1517-V						96 PERCENT											
SLM+	40 37	147	53	6.7	5.5	90	70	30	22	103	71.0	10.6	97	82.9	2.8	101	27.1	26.2	105
SLM	41 37	143	53	6.3	5.0	80	70	37	28	103	71.6	10.2	97	84.4	2.7	105	26.2	26.2	106
LM+	50 37	146	54	6.5	5.6	70	60	60	43	105	69.9	10.5	94	84.4	3.1	103	26.9	25.7	103
WEST TEXAS																			
CLINT		ACALA 1517-70						90 PERCENT											
SLM	41 36	139	52	6.5	5.4	100	70	19	14	97	71.2	10.2	96	82.8	2.8	101	27.1	25.7	103
LM+	50 36	143	55	6.5	5.5	80	60	31	23	100	69.5	9.6	90	82.7	2.9	100	27.3	25.6	102

Table 7b.--Cotton: Combed yarn processing test results for long staple varieties, by state and market area for samples of modal quality, collected at triweekly intervals, crop of 1976

State, Production Area, Chronological Sampling and Classification			Comber waste	Yarn skein strength			Yarn elongation		Yarn appearance			Yarn imperfections	
Grade		Staple		22s or 27 tex	50s or 12 tex	Average Break Factor	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	Average	22s or 27 tex	50s or 12 tex
Name	Code	32d in.	Pct.	Lbs.	Lbs.	No.	Pct.	Pct.	Index	Index	Index	No.	No.
SOUTH EAST													
ALABAMA													
ALBERTA			COKER 310				95 PERCENT						
SLM	41	34	18.3	130	47	2605	5.7	4.6	120	100	110	8	4
SLM	41	34	18.1	127	43	2472	6.4	4.8	110	90	100	9	8
SLM	41	34	16.6	123	43	2428	6.9	5.3	120	110	115	6	5
GEORGIA													
MADISON			COKER 310				100 PERCENT						
SLM	41	35	16.2	136	49	2721	6.6	5.2	120	100	110	8	7
SLM LT SP	42	35	15.1	131	46	2591	6.4	4.9	120	100	110	10	6
SLM LT SP	42	35	14.7	129	47	2594	6.3	4.9	110	100	105	8	5
NORTH CAROLINA													
DUNN			COKER 310				100 PERCENT						
SLM	41	36	13.6	148	53	2953	6.5	5.2	130	110	120	6	3
SLM	41	36	15.8	140	49	2765	6.5	5.2	120	100	110	6	5
SLM	41	35	15.6	138	51	2793	6.8	5.1	110	100	105	10	7
SOUTH CAROLINA													
HARTSVILLE			COKER 310				100 PERCENT						
SLM	41	36	15.3	144	52	2884	6.3	4.9	120	100	110	12	11
SLM	41	36	15.5	141	51	2826	6.3	5.1	110	100	105	6	6
SLM LT SP	42	36	15.1	140	50	2790	6.2	5.1	100	90	95	13	11
SOUTH CENTRAL													
MISSISSIPPI													
LAKE CORMORANT			COKER 310				100 PERCENT						
SLM	41	35	22.0	141	50	2801	6.2	5.1	100	90	95	9	10
SLM	41	35	19.6	136	49	2721	5.7	4.5	110	90	100	8	7
SLM	41	35	19.2	134	47	2649	6.3	4.7	100	80	90	13	11
WEST													
NEW MEXICO													
TULAROSA			ACALA 1517-V				96 PERCENT						
SLM+	40	37	11.8	162	63	3357	7.1	5.8	100	90	95	12	9
SLM	41	37	12.7	165	61	3340	6.8	5.6	90	90	90	20	15
LM+	50	37	14.2	176	66	3586	7.5	6.3	90	70	80	25	20
WEST TEXAS													
CLINT			ACALA 1517-70				90 PERCENT						
SLM	41	36	13.7	161	59	3246	6.6	5.4	100	90	95	8	8
LM+	50	36	14.5	164	60	3304	6.9	5.7	90	70	80	17	14

Table 8.--Cotton: American upland extra long staple: Quality characteristics by production areas, crop of 1976

State, Production Area, Chronological Sampling and Classification		Array length		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & card waste	Comber waste
Grade	Staple	Upper Quartile	Coeff. of Var'n		Zero gage	1/8" gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Com-posite		
	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.	Pct.
Casa Grande			Pima S-5				100 Percent							
4	46	1.50	30	3.8	103	35	7.2	1.9	2.5	4	6	89	7.2	15.1
3	46	1.58	31	3.9	105	36	7.1	1.6	2.9	3	6	93	6.6	15.9
4	46	1.52	30	4.1	108	37	7.4	1.7	3.5	4	5	90	7.5	17.1
Safford			Pima S-5				93 Percent							
3	44	1.49	28	4.0	104	34	7.5	1.8	4.6	4	6	88	6.1	16.3
4	46	1.52	32	4.2	103	35	7.7	2.0	2.5	4	6	89	7.4	14.6
4	46	1.52	31	3.9	102	36	7.9	2.9	3.4	4	5	89	7.0	15.5
Wenden			Pima S-5				100 Percent							
4	44	1.48	33	3.6	106	34	7.1	1.8	2.5	4	5	89	5.5	16.4
4	44	1.44	33	3.6	103	34	7.1	2.0	3.0	4	5	89	7.4	17.9
4	44	1.48	33	3.3	104	34	7.9	2.4	3.8	4	5	89	7.2	17.2
NEW MEXICO														
Columbus			Pima S-5				94 Percent							
3	44	1.44	31	3.4	100	33	7.5	1.6	2.4	4	6	89	6.8	16.2
3	44	1.48	31	3.2	95	34	7.5	1.5	2.3	4	6	91	7.4	13.7
3	44	1.47	30	3.5	99	34	7.8	1.4	2.2	3	5	95	6.6	16.0
WEST TEXAS														
El Paso			Pima S-4				85 Percent							
3	44	1.44	30	3.5	105	33	7.5	1.7	1.9	4	6	90	6.2	16.5
3	44	1.51	29	3.6	99	34	7.6	1.7	2.4	3	6	93	7.0	14.2
4	44	1.43	32	3.0	104	33	7.1	3.0	4.2	4	5	89	7.2	17.9
Tornillo			Pima S-5				100 Percent							
3	46	1.45	29	4.0	101	34	7.7	0.8	1.1	4	5	91	5.6	14.8
3	46	1.51	30	3.5	100	35	7.9	1.2	2.0	3	5	94	6.6	15.3
3	46	1.50	29	3.3	102	35	7.6	1.0	1.7	3	5	94	6.2	16.7

Table 8.--Cotton, American Pima extra long staple: Quality characteristics by production area, crop of 1976--(Continued)

State, Production Area, Chronological Sampling and Classification		Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color - 50s gray yarn			Color-50s bleached yarn			Color - 50s dyed yarn		
Grade	Staple	50s or 12 tex	80s or 7.4 tex	50s or 12 tex	80s or 7.4 tex	50s or 12 tex	80s or 7.4 tex	50s or 12 tex	80s or 7.4 tex	Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
	32d in.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd	+b	Index	Rd	+b	Index	Rd	-b	Index
WEST																		
ARIZONA																		
Casa Grande					Pima S-5					100 Percent								
4	46	67	35	5.3	4.5	110	110	2	1	63.7	13.1	89	84.2	3.4	102	27.6	26.5	105
3	46	65	34	5.5	4.6	110	110	1	1	64.5	13.3	92	84.0	3.5	101	27.9	25.8	101
4	46	66	35	5.3	4.7	110	100	1	1	64.2	13.1	91	82.6	3.5	98	27.8	25.8	102
Safford					Pima S-5					93 Percent								
3	44	64	33	5.4	4.5	110	120	1	1	62.8	13.4	88	82.6	3.5	98	26.9	27.3	109
4	46	64	34	5.6	4.4	110	110	1	2	62.3	13.1	86	83.5	3.6	99	27.6	27.0	107
4	46	66	35	5.5	4.5	120	110	2	1	62.8	12.8	86	84.0	4.1	98	26.6	27.1	109
Wenden					Pima S-5					100 Percent								
4	44	64	35	5.2	4.6	110	110	1	2	64.2	13.3	92	83.9	3.2	102	28.1	26.5	104
4	44	66	35	5.4	4.4	110	100	2	1	64.7	12.7	90	84.1	3.5	101	27.6	26.6	105
4	44	65	34	5.5	4.7	100	110	1	2	65.4	12.8	93	83.7	3.3	101	28.0	26.5	104
NEW MEXICO																		
Columbus					Pima S-5					94 Percent								
3	44	64	35	5.8	4.8	120	120	2	0	63.2	13.2	88	82.4	3.6	97	27.0	26.7	107
3	44	66	35	5.6	4.9	110	120	1	2	62.1	13.3	86	83.7	3.5	100	26.9	26.4	106
3	44	67	36	5.6	4.7	120	110	2	1	65.4	12.4	91	84.5	3.6	102	26.9	26.1	105
WEST TEXAS																		
El Paso					Pima S-4					85 Percent								
3	44	61	32	5.5	4.5	110	110	2	2	63.2	13.5	90	83.1	3.7	98	27.7	26.8	106
3	44	65	35	5.5	4.7	100	110	1	2	62.7	13.5	88	83.3	3.5	99	26.8	26.4	106
4	44	67	36	5.6	4.9	110	90	3	4	62.5	13.2	87	83.8	3.8	99	27.3	26.3	105
Tornillo					Pima S-5					100 Percent								
3	46	63	33	5.5	4.4	110	120	2	1	63.2	12.6	86	81.4	3.2	96	26.9	26.8	107
3	46	68	37	5.6	4.8	100	110	3	2	62.9	12.7	86	82.1	3.4	97	26.3	26.8	109
3	46	69	37	5.7	4.7	100	100	2	2	64.6	12.3	88	83.4	3.6	99	27.2	26.5	106

Table 9.--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on 59 short staple samples collected at triweekly intervals from selected gin points, crop of 1976

Item	Grade	Staple	Fiber length		Micro-naire	Fiber strength		Elon-gation 1/8"	Shirley Analyzer		Color of raw stock			Picker & card waste	Spinning Potential
			2.5% span	50/2.5 unif.		Zero gage	1/8" gage		Visible waste	Total waste	Gray-ness	Yellow-ness	Com-posite		
Sample Distribution:	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.	No.
Mean	88.3	30.8	.95	45.2	4.3	84.4	20.7	6.7	2.40	3.41	2.6	4.0	95.7	7.0	39.9
Standard deviation (±)	5.4	1.0	.04	1.5	.7	3.7	.9	.7	.63	.79	.7	1.0	3.3	.8	8.4
Correlation Coef. for:															
Classification:															
Grade.....index		-.37	-.41	+.13	+.45	+.47	-.31	-.22	-.62	-.66	-.57	-.17	+.51	-.40	-.44
Staple.....32d inches	-.37		+.80	-.22	-.14	-.08	+.42	+.15	+.24	+.21	+.10	-.26	-.06	-.17	+.62
Fiber length:															
2.5% span.....inches	-.41	+.80		-.42	-.19	-.24	+.46	+.10	+.32	+.28	+.25	-.09	-.22	-.07	+.62
50/2.5.....pct	+.13	-.22	-.42		+.43	+.21	-.07	+.12	-.09	-.17	-.39	-.12	+.39	+.01	-.32
Micronaire.....reading	+.45	-.14	-.19	+.43		+.58	-.37	-.42	-.29	-.45	-.62	-.70	+.49	-.02	-.62
Fiber strength:															
Zero gage.....Mpsi	+.47	-.08	-.24	+.21	+.58		-.13	-.44	-.31	-.43	-.33	-.41	+.36	-.09	-.41
1/8" gage.....grams/tex	-.31	+.42	+.46	-.07	-.37	-.13		+.19	+.38	+.35	+.31	+.23	-.16	-.03	+.61
Elongation (1/8").....pct	-.22	+.15	+.10	+.12	-.42	-.44	+.19		+.22	+.30	+.09	+.21	-.01	-.23	+.50
Shirley Analyzer:															
Visible waste.....pct	-.62	+.24	+.32	-.09	-.29	-.31	+.38	+.22		+.94	+.36	.00	-.30	+.50	+.36
Total waste.....pct	-.66	+.21	+.28	-.17	-.45	-.43	+.35	+.30	+.94		+.48	+.15	-.41	+.51	+.44
Color of raw stock:															
Grayness.....No.	-.57	+.10	+.25	-.39	-.62	-.33	+.31	+.09	+.36	+.48		+.55	-.88	+.31	+.36
Yellowness.....No.	-.17	-.26	-.09	-.12	-.70	-.41	+.23	+.21	.00	+.15	+.55		-.43	.00	+.27
Composite.....index	+.51	-.06	-.22	+.39	+.49	+.36	-.16	-.01	-.30	-.41	-.88	-.43		-.32	-.20
Picker & card waste.....pct	-.40	-.17	-.07	+.01	-.02	-.09	-.03	-.23	+.50	+.51	+.31	.00	-.32		-.21
Spinning Potential.....No.	-.44	+.62	+.62	-.32	-.62	-.41	+.61	+.50	+.36	+.44	+.36	+.27	-.20	-.21	
Yarn skein strength:															
8s (74 tex).....pounds	-.31	+.48	+.46	-.21	-.60	-.36	+.54	+.28	+.26	+.31	+.26	+.42	-.08	-.18	+.82
22s (27 tex).....pounds	-.39	+.56	+.51	-.17	-.59	-.33	+.65	+.43	+.39	+.44	+.29	+.32	-.09	-.19	+.92
Yarn elongation:															
8s (74 tex).....pct	-.33	+.33	+.33	-.18	-.72	-.65	+.38	+.71	+.30	+.39	+.24	+.47	-.11	-.18	+.75
22s (27 tex).....pct	-.33	+.28	+.26	-.23	-.76	-.62	+.43	+.72	+.29	+.40	+.31	+.48	-.17	-.19	+.78
Yarn appearance:															
8s (74 tex).....index	+.39	-.03	+.08	+.06	+.41	+.23	-.05	-.30	-.13	-.21	-.46	-.29	+.42	-.06	-.14
22s (27 tex).....index	+.46	-.06	-.04	+.16	+.27	+.27	.00	-.21	-.22	-.27	-.38	-.13	+.46	-.29	.00
Yarn imperfections:															
8s (74 tex).....No.	-.60	+.03	+.05	-.02	-.55	-.47	+.15	+.35	+.31	+.43	+.61	+.48	-.62	+.22	+.31
22s (27 tex).....No.	-.61	-.02	+.09	-.13	-.58	-.49	+.14	+.24	+.33	+.44	+.67	+.54	-.69	+.31	+.25
Color - 22s gray yarn:															
Reflectance.....Rd	+.36	-.03	-.09	+.23	+.77	+.43	-.38	-.27	-.15	-.28	-.77	-.80	+.68	-.06	-.47
Yellowness.....+b	-.20	-.18	-.06	-.11	-.74	-.40	+.31	+.14	+.09	+.20	+.55	+.91	-.39	+.06	+.33
Composite.....index	+.41	-.20	-.21	+.27	+.63	+.36	-.35	-.32	-.17	-.28	-.76	-.53	+.73	-.03	-.50
Color-22s bleached yarn:															
Reflectance.....Rd	-.20	+.20	+.29	-.44	-.59	-.44	+.14	+.16	+.22	+.32	+.39	+.50	-.27	+.10	+.38
Yellowness.....+b	-.27	+.08	+.22	-.40	-.38	-.04	+.08	-.13	+.06	+.10	+.57	+.34	-.60	+.12	+.24
Composite.....index	-.08	+.17	+.19	-.27	-.41	-.44	+.10	+.20	+.18	+.24	+.12	+.34	.00	+.04	+.26
Color - 22s dyed yarn:															
Reflectance.....Rd	+.03	+.17	+.24	-.35	+.28	+.26	-.14	-.42	-.06	-.09	-.02	-.46	-.02	+.21	-.25
Blueness.....-b	+.14	+.02	-.05	+.35	+.22	-.06	+.01	+.03	-.03	-.11	-.36	-.12	+.29	-.17	.00
Composite.....index	+.06	-.06	-.14	+.41	-.01	-.19	+.09	+.25	+.03	-.01	-.20	+.17	+.18	-.21	+.14

Table 9.--Continued

Item	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color - 22s gray yarn			Color-22s bleached yarn			Color - 22s dyed yarn		
	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Blue-ness	Com-posite
	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd.	+b	Index	Rd	+b	Index	Rd	-b	Index
Sample Distribution:																	
Mean.....	278.5	88.4	7.0	5.8	125.3	109.3	25.5	14.8	65.0	12.0	88.6	83.0	3.2	99.7	27.1	26.2	104.8
Standard deviation(±)....	17.3	8.2	.8	.7	6.5	8.3	11.0	6.1	2.8	.9	4.0	1.2	.3	2.9	.7	.4	2.6
Correlation Coef. for:																	
Classification:																	
Grade.....index	-.31	-.39	-.33	-.33	+.39	+.46	-.60	-.61	+.36	-.20	+.41	-.20	-.27	-.08	+.03	+.14	+.06
Staple.....32d inches	+.48	+.56	+.33	+.28	-.03	-.06	+.03	-.02	-.03	-.18	-.20	+.20	+.08	+.17	+.17	+.02	-.06
Fiber length:																	
2.5% span.....inches	+.46	+.51	+.33	+.26	+.08	-.04	+.05	+.09	-.09	-.06	-.21	+.29	+.22	+.19	+.24	-.05	-.14
50/2.5.....pct	-.21	-.17	-.18	-.23	+.06	+.16	-.02	-.13	+.23	-.11	+.27	-.44	-.40	-.27	-.35	+.35	+.41
Micronaire.....reading	-.60	-.59	-.72	-.76	+.41	+.27	-.55	-.58	+.77	-.74	+.63	-.59	-.38	-.41	+.28	+.22	-.01
Fiber strength:																	
Zero gage.....Mpsi	-.36	-.33	-.65	-.62	+.23	+.27	-.47	-.49	+.43	-.40	+.36	-.44	-.04	-.44	+.26	-.06	-.19
1/8" gage.....grams/tex	+.54	+.65	+.38	+.43	-.05	.00	+.15	+.14	-.38	+.31	-.35	+.14	+.08	+.10	-.14	+.01	+.09
Elongation (1/8").....pct	+.28	+.43	+.71	+.72	-.30	-.21	+.35	+.24	-.27	+.14	-.32	+.16	-.13	+.20	-.42	+.03	+.25
Shirley Analyzer:																	
Visible waste.....pct	+.26	+.39	+.30	+.29	-.13	-.22	+.31	+.33	-.15	+.09	-.17	+.22	+.06	+.18	-.06	-.03	+.03
Total waste.....pct	+.31	+.44	+.39	+.40	-.21	-.27	+.43	+.44	-.28	+.20	-.28	+.32	+.10	+.24	-.09	-.11	-.01
Color of raw stock:																	
Grayness.....No.	+.26	+.29	+.24	+.31	-.46	-.38	+.61	+.67	-.77	+.55	-.76	+.39	+.57	+.12	-.02	-.36	-.20
Yellowness.....No.	+.42	+.32	+.47	+.48	-.29	-.13	+.48	+.54	-.80	+.91	-.53	+.50	+.34	+.34	-.46	-.12	+.17
Composite.....index	-.08	-.09	-.11	-.17	+.42	+.46	-.62	-.69	+.68	-.39	+.73	-.27	-.60	.00	-.02	+.29	+.18
Picker & card waste...pct	-.18	-.19	-.18	-.19	-.06	-.29	+.22	+.31	-.06	+.06	-.03	+.10	+.12	+.04	+.21	-.17	-.21
Spinning Potential....No.	+.82	+.92	+.75	+.78	-.14	.00	+.31	+.25	-.47	+.33	-.50	+.38	+.24	+.26	-.25	.00	+.14
Yarn skein strength:																	
8s (74 tex).....pounds		+.90	+.70	+.70	-.06	+.12	+.20	+.17	-.46	+.53	-.32	+.52	+.24	+.40	-.34	+.17	+.29
22s (27 tex).....pounds	+.90		+.73	+.76	-.05	+.12	+.24	+.17	-.46	+.44	-.41	+.36	+.16	+.27	-.36	+.15	+.29
Yarn elongation:																	
8s (74 tex).....pct	+.70	+.73		+.92	-.24	-.13	+.40	+.36	-.48	+.47	-.40	+.50	+.06	+.46	-.45	+.09	+.30
22s (27 tex).....pct	+.70	+.76	+.92		-.30	-.15	+.45	+.39	-.55	+.48	-.48	+.49	+.11	+.43	-.43	+.03	+.25
Yarn appearance:																	
8s (74 tex).....index	-.06	-.05	-.24	-.30		+.51	-.68	-.65	+.40	-.20	+.44	-.21	-.22	-.09	+.16	+.22	+.07
22s (27 tex).....index	+.12	+.12	-.13	-.15	+.51		-.59	-.56	+.26	-.07	+.31	-.18	-.27	-.06	.00	+.17	+.10
Yarn imperfections:																	
8s (74 tex).....No.	+.20	+.24	+.40	+.45	-.68	-.59		+.92	-.62	+.39	-.63	+.25	+.36	+.08	-.37	-.12	+.12
22s (27 tex).....No.	+.17	+.17	+.36	+.39	-.65	-.56	+.92		-.61	+.45	-.58	+.34	+.42	+.14	-.26	-.15	+.05
Color - 22s gray yarn:																	
Reflectance.....Rd	-.46	-.46	-.48	-.55	+.40	+.26	-.62	-.61		+.83	+.90	-.46	-.50	-.23	+.36	+.18	-.09
Yellowness.....+b	+.53	+.44	+.47	+.48	-.20	-.07	+.39	+.45	+.83		-.51	+.52	+.30	+.37	-.47	-.05	+.22
Composite.....index	-.32	-.41	-.40	-.48	+.44	+.31	-.63	-.58	+.90	-.51		-.30	-.50	-.08	+.21	+.22	+.03
Color-22s bleached yarn:																	
Reflectance.....Rd	+.52	+.36	+.50	+.49	-.21	-.18	+.25	+.34	-.46	+.52	-.30		+.20	+.88	-.08	-.21	-.09
Yellowness.....+b	+.24	+.16	+.06	+.11	-.22	-.27	+.36	+.42	-.50	+.30	-.50	+.20		-.26	+.14	-.30	-.26
Composite.....index	+.40	+.27	+.46	+.43	-.09	-.06	+.08	+.14	-.23	+.37	-.08	+.88	-.26		-.14	-.08	+.03
Color - 22s dyed Yarn:																	
Reflectance.....Rd	-.34	-.36	-.45	-.43	+.16	.00	-.37	-.26	+.36	+.47	+.21	-.08	+.14	-.14		-.46	-.83
Blueness.....-b	+.17	+.15	+.09	+.03	+.22	+.17	-.12	-.15	+.18	-.05	+.22	-.21	-.30	-.08	-.46		+.86
Composite.....index	+.29	+.29	+.30	+.25	+.07	+.10	+.12	+.05	-.09	+.22	+.03	-.09	-.26	+.03	-.83	+.86	

Table 10.--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on 286 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1976

Item	Grade	Staple	Fiber length		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer		Color of raw stock			Picker & card waste	Spinning Potential
			2.5% span	50/2.5 unif.		Zero gage	1/8" gage		Visible waste	Total waste	Grayness	Yellowness	Composite		
	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.	No.
Sample Distribution:															
Mean	92.8	34.5	1.08	44.6	4.2	86.7	23.4	6.65	2.06	2.86	1.6	2.7	99.8	6.22	58.4
Standard deviation (±)	5.1	1.0	.04	1.6	.5	4.6	1.8	.76	.86	.97	.9	.9	3.4	1.00	10.3
Correlation Coef. for															
Classification:															
Grade.....index		+.33	+.32	+.17	+.32	+.15	+.23	+.09	-.71	-.73	-.72	-.30	+.77	-.59	+.15
Staple.....32d inches	+.33		+.79	+.21	+.02	+.37	+.65	-.09	-.23	-.24	-.29	-.20	+.26	-.35	+.64
Fiber length:															
2.5% span.....inches	+.32	+.79		+.14	+.02	+.19	+.56	+.04	-.23	-.25	-.32	-.17	+.31	-.40	+.67
50/2.5.....pct	+.17	+.21	+.14		+.51	+.24	+.34	-.16	-.12	-.17	-.02	+.02	+.03	-.19	+.34
Micronaire.....reading	+.32	+.02	+.02	+.51		+.03	-.08	-.07	-.22	-.28	-.05	-.04	+.06	-.18	-.23
Fiber strength:															
Zero gage.....Mpsi	+.15	+.37	+.19	+.24	+.03		+.63	-.47	-.08	-.08	-.09	-.22	+.04	-.14	+.36
1/8" gage.....grams/tex	+.23	+.65	+.56	+.34	-.08	+.63		-.18	-.19	-.19	-.20	-.17	+.17	-.31	+.76
Elongation (1/8").....pct	+.09	-.09	+.04	-.16	-.07	-.47	-.18		-.11	-.12	-.21	-.02	+.22	-.17	-.03
Shirley Analyzer:															
Visible waste.....pct	-.71	-.23	-.23	-.12	-.22	-.08	-.19	-.11		+.96	+.53	+.08	-.56	+.60	-.17
Total waste.....pct	-.73	-.24	-.25	-.17	-.28	-.08	-.19	-.12	+.96		+.55	+.13	-.59	+.62	-.18
Color of raw stock:															
Grayness.....No.	-.72	-.29	-.32	-.02	-.05	-.09	-.20	-.21	+.53	+.55		+.50	-.93	+.47	-.21
Yellowness.....No.	-.30	-.20	-.17	+.02	-.04	-.22	-.17	-.02	+.08	+.13	+.50		-.41	+.23	-.17
Composite.....index	+.77	+.26	+.31	+.03	+.06	+.04	+.17	-.22	-.56	-.59	-.93	-.41		-.48	+.19
Picker & card waste.....pct	-.59	-.35	-.40	-.19	-.18	-.14	-.31	-.17	+.60	+.62	+.47	+.23	-.49		-.41
Spinning Potential.....No.	+.15	+.64	+.67	+.34	-.23	+.36	+.76	-.03	-.17	-.18	-.21	-.17	+.19	-.41	
Yarn skein strength:															
22s (27 tex).....pounds	+.18	+.68	+.65	+.34	-.23	+.50	+.85	-.05	-.16	-.17	-.26	-.19	+.23	-.36	+.94
50s (12 tex).....pounds	+.15	+.65	+.64	+.35	-.25	+.43	+.81	-.06	-.15	-.15	-.24	-.15	+.21	-.37	+.95
Yarn elongation:															
22s (27 tex).....pct	+.11	+.25	+.36	-.05	-.37	-.23	+.18	+.65	-.13	-.13	-.29	-.09	+.28	-.25	+.47
50s (12 tex).....pct	+.11	+.41	+.48	+.13	-.35	-.04	+.42	+.45	-.11	-.11	-.24	-.05	+.25	-.30	+.69
Yarn Appearance:															
22s (27 tex).....index	+.12	-.13	-.19	+.39	+.51	+.11	-.14	+.01	-.02	-.08	+.04	-.12	-.03	-.16	-.13
50s (12 tex).....index	+.11	-.04	-.08	+.51	+.53	+.11	.00	+.02	-.01	-.05	+.03	-.09	-.01	-.21	-.01
Yarn imperfections:															
22s (27 tex).....No.	-.45	-.03	+.06	-.31	-.44	-.23	-.02	-.06	+.37	+.41	+.30	+.35	-.29	+.43	-.01
50s (12 tex).....No.	-.41	-.04	+.02	-.36	-.45	-.21	-.02	-.05	+.32	+.35	+.28	+.35	-.28	+.43	-.03
Color - 22s gray yarn:															
Reflectance.....Rd	+.68	+.23	+.24	+.01	+.12	+.08	+.13	+.17	-.42	-.45	-.83	-.63	+.82	-.38	+.11
Yellowness.....+b	-.43	-.19	-.13	+.05	-.18	-.15	-.07	-.10	+.22	+.25	-.51	+.83	-.44	+.26	-.03
Composite.....index	+.63	+.20	+.22	+.05	+.04	+.03	+.14	+.15	-.41	-.43	-.77	-.32	+.81	-.34	+.13
Color-22s bleached yarn:															
Reflectance.....Rd	+.15	+.11	+.28	-.11	-.32	-.23	+.09	+.20	-.18	-.16	-.34	-.05	+.31	-.17	+.23
Yellowness.....+b	-.35	-.15	-.22	+.15	+.05	-.02	-.07	-.17	+.27	+.27	+.47	+.41	-.45	+.20	-.11
Composite.....index	+.31	+.15	+.29	-.16	-.24	-.13	+.09	+.23	-.27	-.27	-.48	-.25	+.49	-.23	+.21
Color - 22s dyed yarn:															
Reflectance.....Rd	-.04	-.05	-.11	-.11	-.03	+.14	+.02	-.18	+.02	+.05	+.06	-.18	-.11	+.13	-.15
Blueness.....-b	+.22	+.01	+.17	+.12	+.17	-.12	-.06	+.30	-.12	-.17	-.27	-.11	+.33	-.20	+.06
Composite.....index	+.17	+.02	+.17	+.13	+.13	-.15	-.06	+.28	-.09	-.14	-.22	-.01	+.28	-.21	+.10

Table 10.--Continued

Item	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color - 22s gray yarn			Color-22s bleached yarn			Color - 22s dyed yarn		
	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Yellow-ness	Com-posite	Reflect-ance	Blue-ness	Com-posite
	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd.	+b	Index	Rd	+b	Index	Rd	-b	Index
Sample Distribution:																	
Mean.....	109.2	35.7	6.0	4.4	95.1	75.8	19.3	15.3	68.4	10.7	91.8	83.4	3.0	101.4	27.2	26.3	104.7
Standard deviation (±)...	12.1	5.6	.5	.5	10.9	9.4	7.4	5.7	2.5	.8	4.1	.9	.4	3.2	.6	.6	3.0
Correlation Coef. for:																	
Classification:																	
Grade.....index	+.18	+.15	+.11	+.11	+.12	+.11	-.45	-.41	+.68	-.43	+.63	+.15	-.35	+.31	-.04	+.22	+.17
Staple.....32d inches	+.68	+.65	+.25	+.41	-.13	-.04	-.03	-.04	+.23	-.19	+.20	+.11	-.15	+.15	-.05	+.01	+.02
Fiber length:																	
2.5% span.....inches	+.65	+.64	+.36	+.48	-.19	-.08	+.06	+.02	+.24	-.13	+.22	+.28	-.22	+.29	-.11	+.17	+.17
50/2.5.....pct	+.34	+.35	-.05	+.13	+.39	+.51	-.31	-.36	+.01	+.05	+.05	-.11	+.15	-.16	-.11	+.12	+.13
Micronaire.....reading	-.23	-.25	-.37	-.35	+.51	+.53	-.44	-.45	+.12	-.18	+.04	-.32	+.05	-.24	-.03	+.17	+.13
Fiber strength:																	
Zero gage.....Mpsi	+.50	+.43	-.23	-.04	+.11	+.11	-.23	-.21	+.08	-.15	+.03	-.23	-.02	-.13	+.14	-.12	-.15
1/8" gage.....grams/tex	+.85	+.81	+.18	+.42	-.14	.00	-.02	-.02	+.13	-.07	+.14	+.09	-.07	+.09	+.02	-.06	-.06
Elongation (1/8").....pct	-.05	-.06	+.65	+.45	+.01	+.02	-.06	-.05	+.17	-.10	+.15	+.20	-.17	+.23	-.18	+.30	+.28
Shirley Analyzer:																	
Visible waste.....pct	-.16	-.15	-.13	-.11	-.02	-.01	+.37	+.32	-.42	+.22	-.41	-.18	+.27	-.27	+.02	-.12	-.09
Total waste.....pct	-.17	-.15	-.13	-.11	-.08	-.05	+.41	+.35	-.45	+.25	-.43	-.16	+.27	-.27	+.05	-.17	-.14
Color of raw stock:																	
Grayness.....No.	-.26	-.24	-.29	-.24	+.04	+.03	+.30	+.28	-.83	+.51	-.77	-.34	+.47	-.48	+.06	-.27	-.22
Yellowness.....No.	-.19	-.15	-.09	-.05	-.12	-.09	+.35	+.35	-.63	+.83	-.32	-.05	+.41	-.25	-.18	-.11	-.01
Composite.....index	+.23	+.21	+.28	+.25	-.03	-.01	-.29	-.28	+.82	-.44	+.81	+.31	-.45	+.49	-.11	+.33	+.28
Picker & card waste...pct	-.36	-.37	-.25	-.30	-.16	-.21	+.43	+.43	-.38	+.26	-.34	-.17	+.20	-.23	+.13	-.20	-.21
Spinning Potential....No.	+.94	+.95	+.47	+.69	-.13	-.01	-.01	-.03	+.11	-.03	+.13	+.23	-.11	+.21	-.15	+.06	+.10
Yarn skein strength:																	
22s (27 tex).....pounds		+.98	+.47	+.69	-.13	+.01	+.01	-.01	+.14	-.04	+.16	+.20	-.12	+.20	-.10	+.07	+.08
50s (12 tex).....pounds	+.98		+.46	+.71	-.16	-.01	+.05	+.03	+.11	.00	+.15	+.25	-.12	+.23	-.11	+.05	+.08
Yarn elongation:																	
22s (27 tex).....pct	+.47	+.46		+.83	-.19	-.11	+.12	+.11	+.16	-.01	+.19	+.36	-.23	+.36	-.24	+.30	+.30
50s (12 tex).....pct	+.69	+.71	+.83		-.21	-.07	+.13	+.11	+.12	+.05	+.18	+.36	-.20	+.34	-.26	+.26	+.29
Yarn Appearance:																	
22s (27 tex).....index	-.13	-.16	-.19	-.21		+.76	-.68	-.68	+.02	-.15	-.05	-.27	+.09	-.21	-.07	+.25	+.21
50s (12 tex).....index	+.01	-.01	-.11	-.07	+.76		-.61	-.62	+.01	-.10	-.02	-.26	+.13	-.22	-.09	+.15	+.15
Yarn imperfections:																	
22s (27 tex).....No.	+.01	+.05	+.12	+.13	-.68	-.61		+.94	-.40	+.42	-.27	+.11	+.09	+.02	-.04	-.17	-.11
50s (12 tex).....No.	-.01	+.03	+.11	+.11	-.68	-.63	+.94		-.39	+.39	-.27	+.13	+.04	+.06	-.03	-.16	-.11
Color - 22s gray yarn:																	
Reflectance.....Rd	+.14	+.11	+.16	+.12	+.02	+.01	-.40	-.39		-.66	+.88	+.29	-.46	+.44	+.10	+.27	+.13
Yellowness.....+b	-.04	.00	-.01	+.05	-.15	-.10	+.42	+.39	-.66		-.26	+.02	+.48	-.25	-.21	-.05	+.05
Composite.....index	+.16	+.15	+.19	+.18	-.05	-.02	-.27	-.27	+.88	-.26		+.37	-.32	+.44	-.03	+.28	+.21
Color-22s bleached yarn:																	
Reflectance.....Rd	+.20	+.25	+.36	+.36	-.27	-.26	+.11	+.13	+.29	+.02	+.37		-.33	+.81	+.15	+.33	+.09
Yellowness.....+b	-.20	-.12	-.23	-.20	+.09	+.13	+.09	+.04	-.46	+.48	-.32	-.33		-.76	-.14	-.11	-.03
Composite.....index	+.20	+.23	+.36	+.34	-.21	-.22	+.02	+.06	+.44	-.25	+.44	+.81	-.76		+.12	+.24	+.12
Color - 22s dyed yarn:																	
Reflectance.....Rd	-.10	-.11	-.24	-.26	-.07	-.09	-.04	-.03	+.10	-.21	-.03	+.15	-.14	+.12		-.52	-.77
Blueness.....-b	+.07	+.05	+.30	+.26	+.25	+.15	-.17	-.16	+.27	-.05	+.28	+.33	-.11	+.24	-.52		+.94
Composite.....index	+.08	+.08	+.30	+.29	+.21	+.15	-.11	-.11	+.13	+.05	+.21	+.09	-.03	+.12	-.77	+.94	

Table 11.--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on 20 long staple samples, collected at triweekly intervals from selected gin points, crop of 1975

Item	Grade	Staple	Fiber length		Micronaire	Fiber strength		Elongation 1/8"	Shirley Analyzer		Color of raw stock			Picker & card waste	Spinning Potential
			2.5% span	50/2.5 unif.		Zero gage	1/8" gage		Visible waste	Total waste	Grayness	Yellowness	Composite		
Sample Distribution:	Index	32d in.	In.	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Pct.	No.	No.	Index	Pct.	No.
Mean	93.0	35.5	1.15	44.6	4.0	87.3	25.5	6.36	2.55	3.37	1.5	2.4	100.0	7.3	72.6
Standard deviation (±)	2.3	.9	.04	1.8	.5	3.5	1.7	.53	.72	.93	.8	.7	2.5	1.9	16.9
Correlation Coef. for:															
Classification:															
Grade.....index		-.02	-.13	+.19	+.06	+.17	+.08	-.14	-.48	-.42	-.46	-.24	+.48	-.44	+.02
Staple.....32d inches	-.02		+.89	+.67	-.39	+.11	+.55	+.15	+.40	+.22	-.22	-.28	+.30	+.30	+.86
Fiber length:															
2.5% span.....inches	-.13	+.89		+.69	-.29	+.04	+.51	+.24	+.35	+.17	-.18	-.17	+.16	+.20	+.82
50/2.5.....pct	+.19	+.67	+.69		+.17	-.16	+.20	+.48	-.11	-.21	-.08	-.10	+.05	-.11	+.63
Micronaire.....reading	+.06	-.39	-.29	+.17		-.31	-.60	+.41	-.60	-.48	+.48	+.63	-.65	-.62	-.59
Fiber strength:															
Zero gage.....Mpsi	+.17	+.11	+.04	-.16	-.31		+.30	-.63	+.15	+.17	+.10	+.07	+.05	+.14	-.01
1/8" gage.....grams/tex	+.08	+.55	+.51	+.20	-.60	+.30		-.14	+.22	+.10	-.48	-.42	+.51	+.45	+.64
Elongation (1/8").....pct	-.14	+.15	+.24	+.48	+.41	-.63	-.14		-.24	-.30	+.06	+.07	-.20	-.20	+.13
Shirley Analyzer:															
Visible waste.....pct	-.48	+.40	+.35	-.11	-.60	+.15	+.22	-.24		+.94	-.10	-.19	+.11	+.81	+.40
Total waste.....pct	-.42	+.22	+.17	-.21	-.48	+.17	+.10	-.30	+.94		-.02	-.07	-.02	+.74	+.24
Color of raw stock:															
Grayness.....No.	-.46	-.22	-.18	-.08	+.48	+.10	-.48	+.06	-.10	-.02		+.45	-.88	-.23	-.43
Yellowness.....No.	-.24	-.28	-.17	-.10	+.63	+.07	-.42	+.07	-.19	-.07	+.45		-.59	-.33	-.49
Composite.....index	+.48	+.30	+.16	+.05	-.65	+.05	+.51	-.20	+.11	-.02	-.88	-.59		+.30	+.54
Picker & card waste.....pct	-.44	+.30	+.20	-.11	-.62	+.14	+.45	-.20	+.81	+.74	-.23	-.33	+.30		+.44
Spinning Potential.....No.	+.02	+.86	+.82	+.63	-.59	-.01	+.64	+.13	+.40	+.24	-.43	-.49	+.54	+.44	
Yarn skein strength:															
22s (27 tex).....pounds	.00	+.89	+.85	+.61	-.58	+.07	+.68	+.08	+.43	+.26	-.42	-.39	+.51	+.44	+.98
50s (12 tex).....pounds	-.04	+.87	+.85	+.61	-.57	+.02	+.68	+.18	+.40	+.23	-.41	-.40	+.49	+.43	+.98
Yarn elongation:															
22s (27 tex).....pct	.00	+.75	+.72	+.61	-.42	-.24	+.46	+.37	+.28	+.11	-.41	-.46	+.47	+.35	+.88
50s (12 tex).....pct	-.06	+.78	+.77	+.64	-.38	-.22	+.53	+.39	+.31	+.15	-.28	-.44	+.38	+.40	+.91
Yarn Appearance:															
22s (27 tex).....index	+.25	-.58	-.42	-.06	+.80	-.36	-.44	+.37	-.75	-.64	+.28	+.48	-.42	-.71	-.62
50s (12 tex).....index	+.14	-.40	-.26	+.04	+.80	-.16	-.34	+.22	-.63	-.52	+.32	+.61	-.45	-.60	-.52
Yarn imperfections:															
22s (27 tex).....No.	-.23	+.57	+.43	+.16	-.59	+.25	+.49	-.21	+.72	+.62	-.36	-.31	+.42	+.82	+.60
50s (12 tex).....No.	-.33	-.56	+.41	+.09	-.60	+.24	+.36	-.14	-.80	+.72	-.27	-.30	+.32	+.81	+.56
Color - 22s gray yarn:															
Reflectance.....Rd	+.63	+.25	+.11	+.08	-.54	-.05	+.45	-.11	+.07	.00	-.88	-.63	+.93	+.22	+.47
Yellowness.....+b	-.43	-.06	+.03	+.09	+.51	+.06	-.38	-.01	.00	+.07	+.59	+.83	-.60	-.12	-.21
Composite.....index	+.60	+.32	+.18	+.16	-.40	.00	+.40	-.19	+.10	+.04	-.82	-.31	+.87	+.19	+.50
Color - 22s bleached yarn:															
Reflectance.....Rd	+.06	+.10	-.19	-.21	-.32	-.05	+.29	-.11	+.11	+.08	-.46	-.10	+.55	+.36	+.16
Yellowness.....+b	-.48	+.01	+.15	+.20	+.41	+.08	-.23	.00	+.07	+.10	+.64	+.55	-.72	-.09	-.18
Composite.....index	+.33	+.03	-.20	-.22	-.40	-.09	+.28	-.01	.00	-.05	-.64	-.38	+.74	+.22	+.18
Color - 22s dyed yarn:															
Reflectance.....Rd	+.03	-.43	-.47	-.56	.00	-.04	-.34	-.20	.00	+.01	+.24	-.28	-.09	-.02	-.42
Blueness.....-b	-.01	-.09	-.03	+.41	+.66	-.10	-.26	+.34	-.47	-.44	+.34	+.53	-.46	-.47	-.22
Composite.....index	-.01	+.12	+.20	+.56	+.44	-.02	-.05	+.32	-.32	-.34	+.14	+.48	-.26	-.31	+.05

Table 11.--Continued

Item	Yarn strength		Yarn elongation		Yarn appearance		Yarn imprfctns		Color - 22s gray yarn			Color-22s bleached yarn			Color - 22s dyed yarn		
	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Reflectance	Yellowness	Composite	Reflectance	Yellowness	Composite	Reflectance	Blueness	Composite
	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	Rd.	+b	Index	Rd	+b	Index	Rd	-b	Index
Sample Distribution:																	
Mean.....	121.2	42.5	5.8	4.6	98.0	79.5	23.8	18.0	68.6	10.6	91.5	83.0	3.1	100.1	27.1	26.1	104.2
Standard deviation(±)...	14.9	7.4	.5	.6	12.4	11.9	11.0	8.1	2.0	.6	3.3	.9	.6	3.8	.5	.3	2.0
Correlation Coef. for:																	
Classification:																	
Grade.....index	.00	-.04	.00	-.06	+.25	+.14	-.23	-.33	+.63	-.43	+.60	+.06	-.48	+.33	+.03	-.01	-.01
Staple.....32d inches	+.89	+.87	+.75	+.78	-.58	-.40	+.57	+.56	+.25	-.06	+.32	+.09	+.01	+.03	-.43	-.09	+.12
Fiber length:																	
2.5% span.....inches	+.85	+.85	+.72	+.77	-.42	-.26	+.43	+.41	+.11	+.03	+.18	-.19	+.15	-.20	-.47	-.03	+.20
50/2.5..... pct	+.61	+.61	+.61	+.64	-.06	+.04	+.16	+.09	+.08	+.09	+.16	-.21	+.20	-.22	-.56	+.41	+.56
Micronaire.....reading	-.58	-.57	-.42	-.38	+.80	+.80	-.59	-.60	-.54	+.51	-.40	-.32	+.41	-.40	.00	+.66	+.44
Fiber strength:																	
Zero gage.....Mpsi	+.07	+.02	-.24	-.22	-.36	-.16	+.25	+.24	-.05	+.06	.00	-.05	+.08	-.09	-.04	-.10	-.02
1/8" gage.....grams/tex	+.68	+.68	+.46	+.53	-.44	-.34	+.49	+.36	+.45	-.38	+.40	+.29	-.23	+.28	-.34	-.26	-.05
Elongation (1/8")...pct	+.08	+.18	+.37	+.39	+.37	+.22	-.21	-.14	-.11	-.01	-.19	-.11	.00	-.05	-.20	+.34	+.32
Shirley Analyzer:																	
Visible waste.....pct	+.43	+.40	+.28	+.31	-.75	-.63	+.72	+.80	+.07	.00	+.10	+.11	+.07	.00	.00	-.47	-.32
Total waste.....pct	+.26	+.23	+.11	+.15	-.64	-.52	+.62	+.72	.00	+.07	+.04	+.08	+.10	-.05	+.01	-.44	-.34
Color of raw stock:																	
Grayness.....No.	-.42	-.40	-.41	-.28	+.28	+.32	-.36	-.27	-.88	+.59	-.82	-.46	+.64	-.64	+.24	+.34	+.14
Yellowness.....No.	-.39	-.40	-.46	-.44	+.48	+.61	-.31	-.30	-.63	+.83	-.31	-.10	+.55	-.38	-.28	+.53	+.48
Composite.....index	+.51	+.49	+.47	+.38	-.42	-.45	+.42	+.32	+.93	-.60	+.87	+.55	-.72	+.74	-.09	-.46	-.26
Picker & card waste..pct	+.44	+.43	+.35	+.40	-.72	-.60	+.82	+.81	+.22	-.12	+.19	+.36	-.09	+.22	-.02	-.47	-.31
Spinning Potential...No.	+.98	+.98	+.88	+.91	-.62	-.52	+.60	+.56	+.47	-.21	+.50	+.16	-.18	+.18	-.42	-.22	+.05
Yarn skein strength:																	
22s (27 tex).....pounds		+.99	+.85	+.88	-.61	-.46	+.60	+.56	+.44	-.14	+.50	+.17	-.10	+.14	-.48	-.17	+.11
50s (12 tex).....pounds	+.99		+.87	+.91	-.57	-.45	+.56	+.54	+.42	-.17	+.46	+.16	-.14	+.15	-.46	-.18	+.10
Yarn elongation:																	
22s (27 tex).....pct	+.85	+.87		+.95	-.44	-.48	+.47	+.49	+.45	-.27	+.41	+.21	-.27	+.27	-.34	-.19	+.04
50s (12 tex).....pct	+.88	+.91	+.95		-.41	-.40	+.48	+.46	+.38	-.19	+.37	+.13	-.17	+.15	-.29	-.19	+.01
Yarn Appearance:																	
22s (27 tex).....index	-.61	-.57	-.44	-.41		+.78	-.86	-.90	-.27	+.19	-.24	-.30	+.16	-.23	+.14	+.45	+.26
50s (12 tex).....index	-.46	-.45	-.48	-.40	+.78		-.68	-.68	-.38	+.44	-.22	-.18	+.34	-.29	-.10	+.65	+.50
Yarn imperfections:																	
22s (27 tex).....No.	+.60	+.56	+.47	+.48	-.86	-.68		+.92	+.30	-.05	+.36	+.39	-.14	+.27	-.21	-.41	-.21
50s (12 tex).....No.	+.56	+.54	+.49	+.46	-.90	-.68	+.92		+.20	-.04	+.24	+.40	-.18	+.29	-.20	-.36	-.18
Color - 22s gray yarn:																	
Reflectance.....Rd	+.44	+.42	+.45	+.38	-.27	-.38	+.30	+.20		-.71	+.89	+.46	-.76	+.70	+.03	-.50	-.36
Yellowness.....+b	-.14	-.17	-.27	-.19	+.19	+.44	-.05	-.04	-.71		-.33	-.12	+.65	-.47	-.26	+.53	+.48
Composite.....index	+.50	+.46	+.41	+.37	-.24	-.22	+.36	+.24	+.89	-.33		+.54	-.60	+.65	-.16	-.33	-.16
Color-22s bleached yarn:																	
Reflectance.....Rd	+.17	+.16	+.21	+.13	-.30	-.18	+.39	+.40	+.46	-.12	+.54		-.55	+.84	-.17	-.14	-.08
Yellowness.....+b	-.10	-.14	-.27	-.17	+.16	+.34	-.14	-.18	-.76	+.65	-.60	-.55		-.90	-.22	+.53	+.47
Composite.....index	+.14	+.15	+.27	+.15	-.23	-.29	+.27	+.29	+.70	-.47	+.65	+.84	-.90		+.03	-.39	-.30
Color - 22s dyed yarn:																	
Reflectance.....Rd	-.48	-.46	-.34	-.29	+.14	-.10	-.21	-.20	+.03	-.26	-.16	-.17	-.22	+.03		-.51	-.78
Blueness.....-b	-.17	-.18	-.19	-.19	+.45	+.65	-.41	-.36	-.50	+.53	-.33	-.14	+.53	-.39	-.51		+.92
Composite.....index	+.11	+.10	+.04	+.01	+.26	+.50	-.21	-.18	-.36	+.48	-.16	-.08	+.47	-.30	-.78	+.92	

Table 11a--Cotton: Results of simple correlation analyses for the fiber and processing tests performed on combed yarns from 20 long staple samples from selected gin points, crop of 1976

Statistical Items	Picker & Card Waste	Comber waste	Combed Yarn Values							
			Yarn strength		Yarn elongation		Yarn appearance		Yarn imperfections	
			22s	50s	22s	50s	22s	50s	22s	50s
Sample Distribution:	Pct.	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
Mean	7.30	15.9	143.3	51.8	6.5	5.2	108.5	93.5	10.7	8.6
Standard deviation (±)	1.89	2.50	14.7	6.6	.4	.4	11.8	10.9	5.0	4.2
Correlation Coeff. for										
Classification:										
Grade.....index	-.44	+.13	-.01	+.02	-.04	-.09	+.20	+.28	-.34	-.26
Staple.....32d inches	+.30	-.69	+.87	+.87	+.53	+.72	-.49	-.38	+.58	+.57
Fiber length:										
2.5% span.....inches	+.20	-.78	+.77	+.79	+.45	+.61	-.33	-.25	+.42	+.40
50/2.5 unif.....pct	-.11	-.84	+.48	+.51	+.47	+.50	+.12	+.23	+.16	+.05
Micronaire.....reading	-.62	+.05	-.69	-.66	-.36	-.47	+.87	+.89	-.69	-.75
Fiber strength:										
Zero gage.....Mpsi	+.14	+.28	+.18	+.17	-.12	-.12	-.14	-.36	+.21	+.25
1/8" gage.....grams/tex	+.45	-.15	+.77	+.75	+.35	+.59	-.40	-.49	+.48	+.52
Elongation (1/8").....pct	-.20	-.48	-.05	-.03	+.33	+.25	+.26	+.46	-.13	-.19
Shirley Analyzer:										
Visible waste.....pct	+.81	-.19	+.52	+.52	+.45	+.49	-.72	-.76	+.76	+.76
Total waste.....pct	+.74	-.05	+.36	+.35	+.36	+.35	-.61	-.66	+.66	+.69
Color of raw stock:										
Grayness.....No.	-.23	+.10	-.45	-.44	-.31	-.40	+.38	+.22	-.30	-.36
Yellowness.....No.	-.33	+.10	-.46	-.40	-.37	-.41	+.48	+.55	-.33	-.41
Composite.....index	+.30	-.13	+.56	+.55	+.33	+.43	-.51	-.39	+.36	+.40
Picker & card waste.....pct		-.16	+.57	+.53	+.57	+.62	-.60	-.75	+.79	+.77
Comber waste.....pct	-.16		-.58	-.62	-.61	-.63	+.13	-.02	-.32	-.18
Combed yarn strength:										
22s (27 tex).....pounds	+.57	-.58		+.99	+.63	+.83	-.66	-.61	+.72	+.72
50s (12 tex).....pounds	+.53	-.62	+.99		+.64	+.83	-.65	-.57	+.70	+.68
Combed yarn elongation:										
22s (27 tex).....pct	+.57	-.61	+.63	+.64		+.91	-.40	-.33	+.56	+.53
50s (12 tex).....pct	+.62	-.63	+.83	+.83	+.91		-.54	-.44	+.64	+.63
Combed yarn appearance:										
22s (27 tex).....index	-.60	+.13	-.66	-.65	-.40	-.54		+.86	-.76	-.82
50s (12 tex).....index	-.75	-.02	-.61	-.57	-.33	-.44	+.86		-.77	-.83
Combed yarn imperfections:										
22s (27 tex).....No.	+.79	-.32	+.72	+.70	+.56	+.64	-.76	-.77		+.95
50s (12 tex).....No.	+.77	-.18	+.72	+.68	+.53	+.63	-.82	-.83	+.95	

Table 12.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 59 short staple samples, collected at triweekly intervals from selected gin points, crop of 1976

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable	7.0	278	88	7.0	5.8	125	109	26	15	40	89	100	105
Grade index	88	88	88	88	88	88	88	88	88	88	88	88	88
Staple length	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8
Micronaire	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Fiber strength (0 gage)	84	84	84	84	84	84	84	84	84	84	84	84	84
Uniformity ratio	45	45	45	45	45	45	45	45	45	45	45	45	45
Standard Deviations (±) for:													
Dependent variable	.76	17.3	8.2	.76	.66	6.5	8.3	11.0	6.1	8.4	4.0	2.9	2.6
Grade index	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
Staple length	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97
Micronaire	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75
Fiber strength (0 gage)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Uniformity ratio	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Simple Correlation Coef. for:													
Grade index	-.40	-.31	-.39	-.33	-.33	+.39	+.46	-.60	-.61	-.44	+.41	-.08	+.06
Staple length	-.17	+.48	+.56	+.33	+.28	-.03	-.06	+.03	-.02	+.62	-.20	+.17	-.06
Micronaire	-.02	-.60	-.59	-.72	-.76	+.41	+.27	-.55	-.58	-.62	+.63	-.41	-.01
Fiber strength (0 gage)	-.09	-.36	-.33	-.65	-.62	+.23	+.27	-.47	-.49	-.41	+.36	-.44	-.19
Uniformity ratio	+.01	-.21	-.17	-.18	-.23	+.06	+.16	-.02	-.13	-.32	+.27	-.27	+.41
Multiple Cor. Data for:													
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH													
Multiple Cor. Coef.	.53	.50	.59	.40	.37	.41	.48	.63	.67	.66	.42	.17	.07
Partial Cor. Coef. for:													
Grade index	-.51	-.16	-.23	-.23	-.26	+.41	+.47	-.63	-.67	-.29	+.37	-.02	+.04
Staple length	-.37	+.41	+.49	+.24	+.18	+.13	+.14	-.25	-.34	+.55	-.05	+.15	-.05
Beta Coefficients for:													
Grade index	-.54	-.15*	-.21*	-.24*	-.26*	+.44	+.51	-.68	-.72	-.24*	+.40	-.02*	+.04*
Staple length	-.37*	+.42	+.49	+.24*	+.18*	+.13*	+.13*	-.22*	-.29*	+.53	-.05*	+.16*	-.05*
Regression Equation:													
Constant (a)	+22.47	+89.11	-10.93	+4.15	+4.89	+51.01	+6.61	+223.74	+141.43	-67.67	+69.48	+86.01	+107.18
Regression Coef. for:													
Grade index	-.08	-.49	-.31	-.03	-.03	+.53	+.78	-1.38	-.81	-.38	+.29	-.01	+.02
Staple length	-.29	+7.54	+4.11	+.19	+.12	+.88	+1.11	-2.48	-1.80	+4.58	-.21	+.47	-.13
Standard error (±)	.65	14.98	6.60	.70	.61	5.95	7.28	8.50	4.53	6.34	3.61	2.82	2.58
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE													
Multiple Cor. Coef.	.56	.73	.77	.76	.78	.49	.48	.71	.74	.82	.65	.46	.08
Partial Cor. Coef. for:													
Grade index	-.54	+.15	+.06	+.13	+.12	+.28	+.41	-.52	-.57	+.02	+.15	+.19	+.05
Staple length	-.39	+.52	+.59	+.36	+.30	+.13	+.13	-.26	-.36	+.67	-.09	+.18	-.04
Micronaire	+.23	-.62	-.61	-.71	-.74	+.29	+.07	-.40	-.44	-.65	+.55	-.43	-.04
Beta Coefficients for:													
Grade index	-.64	+.13*	+.05*	+.10*	+.09*	+.31*	+.48	-.52	-.55	+.01*	+.13*	+.20*	+.06*
Staple length	-.37	+.45	+.51	+.27*	+.21*	+.12*	+.13*	-.21*	-.28*	+.55	-.07*	+.18*	-.05*
Micronaire	+.22*	-.60	-.55	-.73	-.77	+.29*	+.07*	-.35	-.37	-.55	+.56	-.48	-.05*
Regression Equation:													
Constant (a)	+22.96	+58.47	-24.15	+2.52	+3.40	+56.62	+8.29	+212.51	+134.82	-81.34	+76.05	+81.98	+106.84
Regression Coef. for:													
Grade index	-.09	+.40	+.07	+.01	+.01	+.37	+.73	-1.05	-.61	+.02	+.10	+.11	+.03
Staple length	-.29	+7.92	+4.28	+.21	+.14	+.81	+1.09	-2.34	-1.72	+4.75	-.29	+.52	-.13
Micronaire	+.22	-13.90	-6.00	-.74	-.68	+2.55	+.76	-5.09	-3.00	-6.20	+2.98	-1.83	-.16
Standard Error (±)	.63	11.76	5.25	.50	.41	5.70	7.26	7.79	4.06	4.80	3.02	2.54	2.57

*Statistically insignificant

Table 12.--Continued

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (0 GAGE)													
Multiple Cor. Coef.....	.56	.73	.77	.82	.82	.50	.48	.71	.75	.82	.65	.55	.27
Partial Coef. for:													
Grade index.....	-.47	+.16	+.04	+.30	+.27	+.30	+.33	-.47	-.52	+.06	+.16	+.35	+.20
Staple length.....	-.39	+.52	+.59	+.44	+.36	+.14	+.13	-.25	-.35	+.67	-.08	+.23	-.02
Micronaire.....	+.17	-.56	-.56	-.60	-.65	+.30	+.05	-.33	-.37	-.58	+.52	-.27	+.09
Fiber str. (0 gage).....	+.08	-.06	+.02	-.49	-.40	-.12	+.03	-.07	-.07	-.10	-.07	-.35	-.26
Beta Coefficients for:													
Grade index.....	-.71	+.16*	+.04*	+.23*	+.20*	+.39*	+.46*	-.49	-.52	+.05*	+.17*	+.44*	+.30*
Staple length.....	-.38	+.45	+.51	+.30	+.24*	+.13*	+.13*	-.20*	-.27*	+.55	-.07*	+.21*	-.02*
Micronaire.....	+.18*	-.58	-.55	-.54	-.62	+.35*	+.05*	-.32*	-.34*	-.52	+.59	-.29*	+.11*
Fiber str. (0 gage).....	+.08*	-.05*	+.01*	-.41	-.33	-.13*	+.03*	-.07*	-.06*	-.07*	-.07*	-.40*	-.33*
Regression Equation:													
Constant (a).....	+22.71	+64.85	-25.03	+6.25	+5.90	+62.56	+6.83	+219.85	+139.09	-75.90	+78.19	+90.71	+111.57
Regression Coef. for:													
Grade index.....	-.10	+.50	+.06	+.03	+.02	+.47	+.70	-1.00	-.59	+.07	+.12	+.23	+.14
Staple length.....	-.30	+8.00	+4.27	+.24	+.16	+.89	+1.07	-2.27	-1.69	+4.81	-.27	+.63	-.05
Micronaire.....	+.18	-13.36	-6.07	-.55	-.54	+3.08	+.61	-4.65	-2.76	-5.82	+3.14	-1.12	+.38
Fiber str. (0 gage)....	+.02	-.23	+.03	-.08	-.06	-.23	+.07	-.19	-.10	-.16	-.07	-.31	-.23
Standard Error (±).....	.63	11.74	5.25	.43	.38	5.66	7.26	7.77	4.05	4.78	3.01	2.38	2.49
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (0 GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef.....	.57	.75	.79	.85	.83	.51	.49	.73	.75	.82	.65	.56	.54
Partial Cor. Coef. for:													
Grade index.....	-.48	+.19	+.09	+.36	+.31	+.29	+.34	-.45	-.51	+.07	+.16	+.34	+.29
Staple length.....	-.40	+.55	+.63	+.51	+.41	+.12	+.16	-.21	-.33	+.67	-.08	+.21	+.10
Micronaire.....	+.20	-.58	-.62	-.66	-.68	+.32	-.01	-.39	-.37	-.56	+.49	-.22	-.12
Fiber str. (0 gage).....	+.08	-.06	+.02	-.51	-.41	-.12	+.03	-.07	-.07	-.10	-.07	-.35	-.29
Uniformity ratio.....	-.11	+.21	+.30	+.35	+.27	-.10	+.13	+.23	+.06	+.06	+.01	-.08	+.48
Beta Coefficients for:													
Grade index.....	-.72	+.18*	+.07*	+.27*	+.23*	+.37*	+.48*	-.46	-.52	+.05*	+.17*	+.43*	+.38*
Staple length.....	-.40	+.48	+.55	+.35	+.27	+.11*	+.15*	-.16*	-.26*	+.56	-.06*	+.20*	+.09*
Micronaire.....	+.23*	-.65	-.66	-.64	-.70	+.40*	-.01*	-.40	-.36*	-.53	+.59	-.26*	-.14*
Fiber str. (0 gage).....	+.08*	-.05*	+.02*	-.41	-.32	-.13*	+.03*	-.06*	-.06*	-.07*	-.07*	-.40*	-.33*
Uniformity ratio.....	-.11*	+.16*	+.22*	+.23*	+.17*	-.10*	+.13*	+.19*	+.04*	+.04*	.00*	-.07*	+.53
Regression Equation:													
Constant (a).....	+25.70	-38.43	-91.28	-.13	+1.69	+87.32	-32.73	+144.23	+129.10	-87.39	+77.49	+98.35	+61.34
Regression Coef. for:													
Grade index.....	-.10	+.58	+.11	+.04	+.03	+.45	+.73	-.94	-.58	+.08	+.13	+.22	+.18
Staple length.....	-.32	+8.61	+4.66	+.28	+.18	+.74	+1.30	-1.82	-1.63	+4.88	-.26	+.58	+.25
Micronaire.....	+.23	-15.13	-7.21	-.65	-.62	+3.50	-.07	-5.95	-2.93	-6.02	+3.12	-.99	-.48
Fiber str. (0 gage)....	+.02	-.23	+.03	-.08	-.06	-.23	+.07	-.19	-.10	-.16	-.07	-.31	-.23
Uniformity ratio.....	-.05	+1.87	+1.20	+.12	+.08	-.45	+.72	+1.37	+.18	+.21	+.01	-.14	+.91
Standard Error (±).....	.63	11.48	5.00	.40	.36	5.63	7.19	7.55	4.04	4.77	3.01	2.38	2.18

*Statistically insignificant

Table 13.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 59 short staple samples, collected at triweekly intervals from selected gin points, crop of 1976

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s		Gray yarn	Bleached yarn	Dyed yarn
Mean Values for:	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Dependent variable	7.0	278	88	7.0	5.8	125	109	26	15	40	89	100	105
Grayness	3	3	3	3	3	3	3	3	3	3	3	3	3
Yellowness	4	4	4	4	4	4	4	4	4	4	4	4	4
Nonlint content (S.A.)	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
2.5% span length	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95
Micronaire	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Standard Deviation (±) for:													
Dependent variable	.76	17.3	8.2	.76	.66	6.5	8.3	11.0	6.1	8.4	4.0	2.9	2.6
Grayness	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7
Yellowness	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Nonlint content (S.A.)	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8
2.5% span length	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75
Simple Correlation Coef. for:													
Grayness	+.31	+.26	+.29	+.24	+.31	-.46	-.38	+.61	+.67	+.36	-.76	+.12	-.20
Yellowness	.00	+.42	+.32	+.47	+.48	-.29	-.13	+.48	+.54	+.27	-.53	+.34	+.17
Nonlint content (S.A.)	+.51	+.31	+.44	+.39	+.40	-.21	-.27	+.43	+.44	+.44	-.28	+.24	-.01
2.5% span length	-.07	+.46	+.51	+.33	+.26	+.08	-.04	+.05	+.09	+.62	-.21	+.19	-.14
Micronaire	-.02	-.60	-.59	-.72	-.76	+.41	+.27	-.55	-.58	-.62	+.63	-.41	-.01
Multiple Cor. Data for:													
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS													
Multiple Cor. Coef.	.37	.42	.35	.48	.49	.47	.39	.63	.70	.37	.77	.35	.40
Partial Cor. Coef. for:													
Grayness	+.37	+.03	+.15	-.03	+.05	-.38	-.37	+.47	+.53	+.26	-.66	-.08	-.37
Yellowness	-.21	+.35	+.20	+.42	+.40	-.04	+.10	+.21	+.28	+.10	-.20	+.33	+.35
Beta Coefficients for:													
Grayness	+.44*	+.03*	+.17*	-.04*	+.05*	-.44	-.44*	+.50	+.53	+.30*	-.67	-.09*	-.43*
Yellowness	-.24*	+.41*	+.23*	+.49	+.45	-.05*	+.11*	+.20*	+.25*	+.11*	-.16*	+.39*	+.41*
Regression Equation:													
Constant (a)	+6.53	+247.26	+75.63	+5.56	+4.46	+136.79	+118.55	-3.28	-3.11	+27.09	+100.74	+96.02	+104.35
Regression Coef. for:													
Grayness	+.46	+.71	+1.86	-.04	+.05	-3.89	-4.96	+7.47	+4.39	+3.41	-3.61	-.37	-1.52
Yellowness	-.19	+7.37	+1.97	+.39	+.31	-.32	+.97	+2.27	+1.57	+.96	-.66	+1.17	+1.12
Standard Error (±)	.71	15.67	7.69	.67	.57	5.78	7.62	8.52	4.35	7.84	2.55	2.68	2.37
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.)													
Multiple Cor. Coef.	.53	.50	.51	.61	.60	.47	.40	.66	.72	.49	.77	.44	.43
Partial Cor. Coef. for:													
Grayness	+.17	-.12	-.07	-.26	-.16	-.34	-.29	+.35	+.40	+.07	-.63	-.21	-.40
Yellowness	-.16	+.40	+.28	+.51	+.48	-.04	+.08	+.25	+.32	+.16	-.18	+.38	+.37
Nonlint (S.A.)	+.41	+.30	+.40	+.44	+.41	+.01	-.10	+.24	+.24	+.34	+.11	+.29	+.17
Beta Coefficients for:													
Grayness	+.20*	-.14*	-.08*	-.29*	-.18*	-.44*	-.38*	+.38*	+.42	+.09*	-.72	-.27*	-.54
Yellowness	-.17*	+.46	+.30*	+.57	+.52	-.04*	+.09*	+.23*	+.28*	+.17*	-.14*	+.44	+.44
Nonlint (S.A.)	+.44	+.31*	+.43*	+.44	+.41	+.01*	-.10*	+.21*	+.20*	+.37*	+.08*	+.31*	+.18*
Regression Equation:													
Constant (a)	+5.52	+231.24	+64.92	+4.55	+3.65	+136.63	+121.14	-10.31	-6.77	+17.73	+99.76	+93.37	+102.94
Regression Coef. for:													
Grayness	+.20	-3.40	-.89	-.30	-.16	-3.93	-4.29	+5.67	+3.45	+1.01	-3.86	-1.05	-1.88
Yellowness	-.13	+8.30	+2.60	+.45	+.36	-.31	+.82	+2.68	+1.79	+1.50	-.60	+1.33	+1.20
Nonlint (S.A.)	+.42	+6.78	+4.54	+.43	+.35	+.07	-1.10	+2.98	+1.55	+3.96	+.41	+1.12	+.60
Standard Error (±)	.65	14.98	7.04	.60	.52	5.78	7.58	8.27	4.21	7.36	2.53	2.57	2.33

*Statistically insignificant

Table 13.--Continued

Statistical Items	Dependent Variables											
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH													
Multiple Cor. Coef.	.60	.70	.70	.71	.66	.51	.41	.67	.72	.74	.77	.50	.43
Partial Cor. Coef. for:													
Grayness	+.30	-.30	-.21	-.37	-.25	-.40	-.31	+.36	+.40	-.08	-.57	-.29	-.36
Yellowness	-.25	+.57	+.46	+.61	+.54	+.02	+.11	+.21	+.29	+.39	-.20	+.43	+.36
Nonlint (S.A.)	+.46	+.25	+.39	+.42	+.38	-.03	-.11	+.25	+.25	+.32	+.13	+.25	+.17
2.5% span length	-.33	+.57	+.56	+.45	+.32	+.23	+.11	-.12	-.07	+.64	-.11	+.26	-.01
Beta Coefficients for:													
Grayness	+.38*	-.32*	-.21*	-.39*	-.28*	-.56	-.44*	+.43*	+.44	-.07*	-.67	-.38*	-.53*
Yellowness	-.26*	+.62	+.46	+.69	+.61	+.02*	+.13*	+.20*	+.26*	+.36	-.17*	+.52	+.44*
Nonlint (S.A.)	+.49*	+.22*	+.35	+.38	+.37	-.03*	-.12*	+.23*	+.21*	+.27*	+.09*	+.27*	+.18*
2.5% span length	-.31*	+.54	+.52	+.39	+.28*	+.22	+.11*	-.10*	-.05*	+.60	-.08*	+.25*	-.01*
Regression Equation:													
Constant (a)	+10.32	+31.78	-27.21	-1.88	-.25	+107.08	+102.24	+12.20	+.06	-91.96	+105.91	+78.41	+103.71
Regression Coef. for:													
Grayness	+.39	-7.44	-2.33	-.40	-.25	-4.96	-4.95	+6.43	+3.67	-.83	-3.62	-1.48	-1.85
Yellowness	-.21	+11.30	+3.96	+.55	+.42	+.15	+1.12	+2.33	+1.68	+3.14	-.70	+1.56	+1.19
Nonlint (S.A.)	+.47	+4.80	+3.63	+.37	+.31	-.24	-1.29	+3.21	+1.62	+2.88	+.48	+.97	+.60
2.5% span length	-5.42	+214.85	+98.08	+6.86	+4.22	+33.00	+21.10	-25.07	-7.58	+117.11	-6.93	+16.46	-.86
Standard Error (±)	.61	12.28	5.85	.54	.50	5.62	7.54	8.21	4.20	5.68	2.52	2.48	2.33
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE													
Multiple Cor. Coef.	.65	.76	.76	.83	.81	.56	.43	.68	.73	.82	.80	.52	.44
Partial Cor. Coef. for:													
Grayness	+.34	-.38	-.29	-.52	-.41	-.39	-.30	+.35	+.39	-.18	-.57	-.31	-.36
Yellowness	-.01	+.30	+.15	+.27	+.12	+.19	+.16	+.07	+.18	-.01	+.03	+.24	+.34
Nonlint (S.A.)	+.53	+.11	+.26	+.26	+.20	+.07	-.07	+.19	+.21	+.15	+.23	+.18	+.19
2.5% span length	-.28	+.55	+.53	+.42	+.25	+.28	+.13	-.15	-.09	+.63	-.05	+.22	.00
Micronaire	+.31	-.41	-.41	-.60	-.63	+.27	+.11	-.15	-.09	-.52	+.30	-.19	+.09
Beta Coefficients for:													
Grayness	+.42*	-.38*	-.28*	-.49	-.38	-.52	-.42*	+.41*	+.43	-.15*	-.64	-.41*	-.52*
Yellowness	-.01*	+.33*	+.16*	+.25*	+.12*	+.26*	+.24*	+.08*	+.20*	-.01*	+.03*	+.35*	+.52*
Nonlint (S.A.)	+.60	+.09*	+.21*	+.19*	+.15*	+.07*	-.08*	+.18*	+.18*	+.11*	+.18*	+.19*	+.22*
2.5% span length	-.25*	+.47	+.45	+.29	+.17*	+.27*	+.14*	-.13*	-.07*	+.52	-.03*	+.21*	.00*
Micronaire	+.42*	-.49	-.50	-.72	-.81	+.39*	+.18*	-.20*	-.10*	-.60	+.32*	-.28*	+.13*
Regression Equation:													
Constant (a)	+6.22	+140.89	+26.00	+5.21	+6.60	+74.43	+83.63	+39.77	+8.14	-26.73	+89.48	+88.76	+99.29
Regression Coef. for:													
Grayness	+.43	-8.90	-3.10	-.51	-.34	-4.62	-4.76	+6.13	+3.58	-1.75	-3.46	-1.60	-1.81
Yellowness	-.01	+5.93	+1.35	+.20	+.08	+1.78	+2.04	+.96	+1.28	-.07	+.12	+1.04	+1.41
Nonlint (S.A.)	+.58	+1.94	+2.25	+.18	+.13	+.62	-.80	+2.49	+1.41	+1.18	+.91	+.70	+.72
2.5% span length	-4.40	+188.03	+85.03	+5.12	+2.54	+41.09	+25.72	-31.90	-9.58	+101.11	-2.85	+13.90	+.23
Micronaire	+.43	-11.28	-5.49	-.73	-.71	+3.40	+1.94	-2.87	-.84	-6.73	+1.72	-1.08	+.46
Standard Error (±)	.58	11.22	5.33	.43	.38	5.42	7.49	8.11	4.19	4.85	2.40	2.44	2.32

*Statistically insignificant

Table 14.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 59 short staple samples, collected at triweekly intervals from selected gin points, crop of 1976

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable	7.0	278	88	7.0	5.8	125	109	26	15	40	89	100	105
2.5% span length	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95
Micronaire	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Fiber str. (1/8" gage)	21	21	21	21	21	21	21	21	21	21	21	21	21
Uniformity ratio	45	45	45	45	45	45	45	45	45	45	45	45	45
Elongation (1/8" gage)	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
Standard Deviation (±) for:													
Dependent variable	.76	17.3	8.2	.76	.66	6.5	8.3	11.0	6.1	8.4	4.0	2.9	2.6
2.5% span length	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75
Fiber str. (1/8" gage)	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Uniformity ratio	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Elongation (1/8" gage)	.70	.70	.70	.70	.70	.70	.70	.70	.70	.70	.70	.70	.70
Simple Correlation Coef. for:													
2.5% span length	-.07	+.46	+.51	+.33	+.26	+.08	-.04	+.05	+.09	+.62	-.21	+.19	-.14
Micronaire	-.02	-.60	-.59	-.72	-.76	+.41	+.27	-.55	-.58	-.62	+.63	-.41	-.01
Fiber str. (1/8" gage)	-.03	+.54	+.65	+.38	+.43	-.05	.00	+.15	+.14	+.61	-.35	+.10	+.09
Uniformity ratio	+.01	-.21	-.17	-.18	-.23	+.06	+.16	-.02	-.13	-.32	+.27	-.27	+.41
Elongation (1/8" gage)	-.23	+.28	+.43	+.71	+.72	-.30	-.21	+.35	+.24	+.50	-.32	+.20	+.25
Multiple Cor. Data for:													
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE													
Multiple Cor. Coef.	.08	.70	.72	.74	.77	.44	.27	.56	.58	.80	.64	.43	.14
Partial Cor. Coef. for:													
2.5% span length	-.08	+.45	+.51	+.28	+.18	+.18	+.01	-.07	-.02	+.65	-.11	+.12	-.14
Micronaire	-.03	-.59	-.59	-.71	-.75	+.44	+.26	-.56	-.57	-.65	+.62	-.39	-.04
Beta Coefficients for:													
2.5% span length	-.08*	+.36	+.41	+.20*	+.12*	+.16*	+.01*	-.06*	-.02*	+.52	-.09*	+.12*	-.14*
Micronaire	-.03*	-.54	-.52	-.68	-.73	+.45	+.27*	-.56	-.58	-.52	+.61	-.39	-.04*
Regression Equation:													
Constant (a)	+8.41	+194.90	+38.18	+6.64	+6.88	+85.09	+94.78	+74.60	+37.76	-30.87	+82.46	+98.83	+113.49
Regression Coef. for:													
2.5% span length	-1.36	+143.51	+78.13	+3.53	+1.81	+24.61	+1.86	-14.10	-2.79	+100.70	-8.26	+7.61	-8.52
Micronaire	-.03	-12.41	-5.66	-.69	-.64	+3.88	+2.97	-8.29	-4.73	-5.88	+3.26	-1.48	-.13
Standard Error (±)	.76	12.34	5.70	.51	.42	5.85	7.98	9.13	4.96	5.02	3.06	2.59	2.56
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE FIBER STR. (1/8" GAGE)													
Multiple Cor. Coef.	.08	.73	.79	.75	.78	.45	.29	.56	.58	.83	.64	.44	.22
Partial Cor. Coef. for:													
2.5% span length	-.07	+.33	+.35	+.24	+.09	+.14	-.04	-.04	+.02	+.56	-.05	+.17	-.20
Micronaire	-.03	-.53	-.52	-.68	-.71	+.43	+.29	-.54	-.57	-.60	+.58	-.41	+.02
Fiber str. (1/8" gage)	-.01	+.28	+.47	+.06	+.19	+.06	+.12	-.04	-.10	+.36	-.12	-.13	+.17
Beta Coefficients for:													
2.5% span length	-.07*	+.26*	+.26*	+.18*	+.06*	+.14*	-.04*	-.04*	+.02*	+.42	-.05*	+.17*	-.22*
Micronaire	-.04*	-.47	-.40	-.67	-.69	+.46	+.31*	-.58	-.61	-.45	+.58	-.43	+.02*
Fiber Str. (1/8" gage)	-.01*	+.24*	+.39	+.04*	+.15*	+.06*	+.13*	-.04*	-.09*	+.26*	-.11*	-.14*	+.20*
Regression Equation:													
Constant (a)	+8.54	+130.86	-10.45	+6.13	+5.41	+78.63	+77.95	+81.62	+46.46	-64.08	+89.26	+104.79	+105.53
Regression Coef. for:													
2.5% span length	-1.28	+105.11	+48.97	+3.22	+.92	+20.73	-8.23	-9.89	+2.42	+80.79	-4.18	+11.19	-13.29
Micronaire	-.04	-10.75	-4.40	-.68	-.61	+4.05	+3.40	-8.47	-4.96	-5.03	+3.08	-1.64	+.07
Fiber str. (1/8" gage)	-.01	+4.51	+3.43	+.04	+.10	+.46	+1.19	-.49	-.61	+2.34	-.48	-.42	+.56
Standard Error (±)	.76	11.83	5.04	.51	.42	5.84	7.92	9.12	4.94	4.68	3.04	2.57	2.52

*Statistically insignificant

Table 14.--Continued

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s	Coarse 8s	Fine 22s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with 2.5% SPAN LENGTH,MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef.....	.08	.74	.81	.78	.79	.46	.29	.61	.61	.84	.64	.44	.46
Partial Cor. Coef. for:													
2.5% span length.....	-.06	+.38	+.44	+.34	+.15	+.11	-.03	+.03	+.07	+.56	-.05	+.15	-.08
Micronaire.....	-.03	-.56	-.57	-.73	-.71	+.43	+.24	-.60	-.59	-.59	+.53	-.35	-.19
Fiber str. (1/8" gage)...	-.01	+.21	+.39	-.07	+.12	+.09	+.10	-.14	-.16	+.31	-.12	-.11	+.03
Uniformity ratio.....	-.01	+.21	+.29	+.36	+.21	-.11	+.03	+.31	+.20	+.14	.00	-.04	+.41
Beta Coefficients for:													
2.5% span length.....	-.08*	+.33	+.35	+.26*	+.11*	+.11*	-.04*	+.03*	+.06*	+.46	-.05*	+.16*	-.09*
Micronaire.....	-.03*	-.55	-.50	-.80	-.77	+.52	+.29*	-.72	-.70	-.49	+.58	-.41*	-.21*
Fiber str. (1/8" gage)...	-.01*	+.18*	+.31	-.05*	+.09*	+.10*	+.12*	-.15*	-.16*	+.23*	-.11*	-.12*	+.04*
Uniformity ratio.....	-.01*	+.18*	+.22*	+.30*	+.17*	-.12*	+.03*	+.32*	+.21*	+.10*	.00*	-.04*	+.51
Regression Equation:													
Constant (a).....	+8.71	+41.98	-65.10	+.22	+2.52	+98.99	+70.62	-7.69	+15.10	-88.40	+89.15	+107.74	+70.98
Regression Coef. for:													
2.5% span length.....	-1.32	+129.87	+66.89	+4.53	+1.61	+16.54	-6.71	+7.87	+8.54	+88.59	-4.15	+10.59	-5.17
Micronaire.....	-.03	-12.69	-5.52	-.82	-.67	+4.54	+3.23	-10.62	-5.71	-5.53	+3.08	-1.57	-.73
Fiber str. (1/8" gage).	-.01	+3.41	+2.79	-.04	+.07	+.73	+1.09	-1.72	-1.05	+2.05	-.48	-.38	+.11
Uniformity ratio.....	.00	+2.14	+1.23	+.15	+.07	-.54	+.19	+2.37	+.84	+.55	.00	-.08	+.88
Standard Error (±).....	.76	11.56	4.82	.47	.41	5.80	7.92	8.68	4.84	4.64	3.04	2.57	2.29
DEPENDENT VARIABLE with 2.5% SPAN LENGTH,MICRONAIRE FIBER STR. (1/8" GAGE), UNIFORMITY RATIO,ELONGATION (1/8" GAGE)													
Multiple Cor. Coef.....	.30	.75	.82	.87	.89	.47	.32	.61	.61	.87	.65	.44	.47
Partial Cor. Coef. for:													
2.5% span length.....	-.03	+.38	+.41	+.33	+.07	+.12	-.02	+.03	+.08	+.54	-.04	+.15	-.10
Micronaire.....	-.18	-.52	-.45	-.59	-.57	+.33	+.14	-.52	-.55	-.40	+.44	-.28	-.10
Fiber str. (1/8" gage)...	-.04	+.20	+.41	.00	+.26	+.08	+.09	-.14	-.17	+.38	-.12	-.10	+.05
Uniformity ratio.....	+.12	+.22	+.20	+.12	-.12	-.05	+.08	+.27	+.22	-.05	+.03	-.05	+.34
Elongation (1/8" gage)...	-.29	-.07	+.19	+.61	+.68	-.13	-.14	+.04	-.09	+.43	-.08	+.05	+.12
Beta Coefficients for:													
2.5% span length.....	-.04*	+.34	+.33	+.20*	+.04*	+.13*	-.02*	+.03*	+.07*	+.40	-.04*	+.15*	-.11*
Micronaire.....	-.25*	-.58	-.42	-.52	-.45	+.43*	+.19*	-.70	-.76	-.31	+.53	-.37*	-.13*
Fiber str. (1/8" gage)...	-.05*	+.18*	+.33	.00*	+.15*	+.09*	+.10*	-.14*	-.17*	+.26	-.12*	-.12*	+.05*
Uniformity ratio.....	+.15*	+.21*	+.16*	+.08*	-.07*	-.06*	+.11*	+.30*	+.25*	-.04*	+.04*	-.07*	+.45*
Elongation (1/8" gage)...	-.35*	-.06*	+.14*	+.46	+.51	-.14*	-.16*	+.04*	-.09*	+.28	-.07*	+.06*	+.13*
Regression Equation:													
Constant (a).....	+8.47	+39.91	-61.78	+.63	+2.99	+98.15	+69.37	-7.30	+14.69	-81.60	+88.85	+107.89	+71.45
Regression Coef. for:													
2.5% span length.....	-.63	+133.66	+61.61	+3.54	+.57	+18.89	-3.31	+6.70	+9.82	+77.57	-3.37	+10.17	-6.23
Micronaire.....	-.25	-13.52	-4.59	-.53	-.39	+3.79	+2.15	-10.23	-6.15	-3.54	+2.84	-1.43	-.44
Fiber str. (1/8" gage).	-.04	+3.28	+2.93	.00	+.11	+.62	+.92	-1.66	-1.11	+2.36	-.52	-.36	+.15
Uniformity ratio.....	+.08	+2.45	+.88	+.04	-.03	-.25	+.60	+2.22	+1.00	-.20	+.10	-.13	+.77
Elongation (1/8" gage).	-.38	-1.42	+1.59	+.50	+.48	-1.28	-1.85	+.66	-.74	+3.42	-.42	+.24	+.49
Standard Error (±).....	.73	11.53	4.73	.38	.30	5.75	7.85	8.68	4.82	4.19	3.03	2.56	2.28

*Statistically insignificant

Table 15.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 286 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1976

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable	6.2	109	36	6.0	4.4	95	76	19	15	58	92	101	105
Grade index	93	93	93	93	93	93	93	93	93	93	93	93	93
Staple length	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5
Micronaire	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Fiber strength (0 gage)	87	87	87	87	87	87	87	87	87	87	87	87	87
Uniformity ratio	45	45	45	45	45	45	45	45	45	45	45	45	45
Standard Deviations (±) for:													
Dependent variable	1.00	12.1	5.6	.47	.47	10.9	9.4	7.4	5.7	10.3	4.1	3.2	3.0
Grade index	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
Staple length	.99	.99	.99	.99	.99	.99	.99	.99	.99	.99	.99	.99	.99
Micronaire	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47
Fiber strength (0 gage)	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Uniformity ratio	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Simple Correlation Coef. for:													
Grade index	-.59	+.18	+.15	+.11	+.11	+.12	+.11	-.45	-.41	+.15	+.63	+.31	+.17
Staple length	-.35	+.68	+.65	+.25	+.41	-.13	-.04	-.03	-.04	+.64	+.20	+.15	+.02
Micronaire	-.18	-.23	-.25	-.37	-.35	+.51	+.53	-.44	-.45	-.23	+.04	-.24	+.13
Fiber strength (0 gage)	-.14	+.50	+.43	-.23	-.04	+.11	+.11	-.23	-.21	+.36	+.03	-.13	-.15
Uniformity ratio	-.19	+.34	+.35	-.05	+.13	+.39	+.51	-.31	-.36	+.34	+.05	-.16	+.13
Multiple Cor. Data for:													
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH													
Multiple Cor. Coef	.62	.68	.65	.25	.41	.22	.14	.46	.42	.64	.63	.31	.18
Partial Cor. Coef. for:													
Grade index	-.54	-.07	-.09	+.03	-.04	+.17	+.13	-.46	-.42	-.09	+.61	+.28	+.18
Staple length	-.20	+.67	+.64	+.23	+.40	-.18	-.08	+.14	+.11	+.63	-.02	+.05	-.04
Beta Coefficients for:													
Grade index	-.53	-.06*	-.07*	+.03*	-.04*	+.18*	+.14*	-.49	-.44	-.07*	+.64	+.29	+.19
Staple length	-.18*	+.70	+.67	+.24	+.43	-.19	-.09*	+.13*	+.11*	+.67	-.02*	+.05*	-.04*
Regression Equation:													
Constant (a)	+22.06	-172.43	-89.14	+1.82	-2.25	+131.94	+80.43	+50.93	+38.78	-166.99	+47.39	+78.56	+98.75
Regression Coef. for:													
Grade index	-.10	-.13	-.08	.00	.00	+.39	+.25	-.70	-.49	-.14	+.51	+.18	+.11
Staple length	-.18	+8.54	+3.85	+.11	+.20	-2.11	-.82	+.98	+.64	+6.92	-.07	+.17	-.12
Standard Error (±)	.79	8.84	4.26	.45	.42	10.63	9.27	6.53	5.17	7.84	3.15	3.04	2.98
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE													
Multiple Cor. Coef	.62	.72	.70	.48	.55	.53	.53	.55	.53	.69	.66	.48	.19
Partial Cor. Coef. for:													
Grade index	-.52	+.04	+.02	+.18	+.11	.00	-.06	-.37	-.32	+.02	+.64	+.40	+.14
Staple length	-.20	+.67	+.65	+.21	+.40	-.15	-.04	+.11	+.09	+.64	-.04	+.02	-.03
Micronaire	.00	-.33	-.33	-.42	-.40	+.50	+.52	-.34	-.36	-.31	-.22	-.38	+.04
Beta Coefficients for:													
Grade index	-.53	+.03*	+.02*	+.18	+.10*	.00*	-.05*	-.38	-.32	+.02*	+.70	+.43	+.16*
Staple length	-.18	+.67	+.65	+.20	+.39	-.14*	-.03*	+.10*	+.08*	+.64	-.04*	+.02*	-.03*
Micronaire	.00*	-.26	-.27	-.44	-.39	+.52	+.54	-.32	-.35	-.25	-.18	-.38	+.07*
Regression Equation:													
Constant (a)	+22.08	-153.89	-80.19	+3.04	-1.16	+98.29	+49.98	+65.10	+50.59	-151.46	+51.85	+85.81	+97.40
Regression Coef. for:													
Grade index	-.10	+.08	+.02	+.02	+.01	.00	-.10	-.54	-.36	+.04	+.56	+.27	+.09
Staple length	-.18	+8.23	+3.70	+.09	+.18	-1.55	-.32	+.74	+.45	+6.67	-.15	+.05	-.10
Micronaire	-.01	-6.58	-3.18	-.43	-.38	+11.95	+10.81	-5.03	-4.20	-5.52	-1.58	-2.57	+.48
Standard Error (±)	.79	8.34	4.02	.41	.39	9.20	7.93	6.13	4.82	7.45	3.07	2.82	2.97

*Statistically insignificant

Table 15.--Continued

Statistical Items	Dependent Variables											
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (0 GAGE)													
Multiple Cor. Coef.....	.62	.77	.73	.59	.59	.56	.54	.59	.57	.70	.66	.51	.26
Partial Cor. Coef. for:													
Grade index.....	-.52	.00	.00	+.16	+.10	.00	-.05	-.39	-.33	+.01	+.64	+.40	+.15
Staple length.....	-.20	+.62	+.59	+.34	+.45	-.21	-.08	+.20	+.16	+.59	-.02	+.10	+.03
Micronaire.....	.00	-.36	-.35	-.45	-.41	+.50	+.52	-.35	-.37	-.32	-.22	-.38	+.08
Fiber str. (0 gage).....	+.01	+.39	+.29	-.38	-.25	+.19	+.14	-.26	-.23	+.20	-.07	-.22	-.18
Beta Coefficients for:													
Grade index.....	-.53	.00*	.00*	+.15*	+.09*	.00*	-.05*	-.38	-.32	+.01*	+.70	+.42	+.17*
Staple length.....	-.18	+.57	+.57	+.33	+.47	-.20	-.08*	+.18	+.15*	+.58	-.01*	+.09*	+.04*
Micronaire.....	.00*	-.26	-.27	-.43	-.38	+.51	+.54	-.32	-.34	-.26	-.18	-.38	+.08*
Fiber str. (0 gage).....	+.01*	+.29	+.23	-.36	-.22	+.17	+.13*	-.23	-.21	+.15	-.06*	-.21	-.19
Regression Equation:													
Constant (a).....	+22.04	-167.39	-85.64	+4.35	-.47	+86.02	+42.21	+75.48	+58.12	-158.86	+53.21	+90.52	+100.44
Regression Coef. for:													
Grade index.....	-.10	.00	.00	+.01	+.01	+.01	-.09	-.54	-.36	+.02	+.56	+.26	+.10
Staple length.....	-.18	+6.94	+3.23	+.16	+.22	-2.24	-.76	+1.37	+.89	+6.09	-.06	+.30	+.11
Micronaire.....	-.01	-6.70	-3.22	-.43	-.38	+11.89	+10.77	-4.97	-4.15	-5.57	-1.57	-2.55	+.50
Fiber str. (0 gage).....	.00	+.76	+.28	-.04	-.02	+.41	+.27	-.37	-.27	+.34	-.05	-.15	-.12
Standard Error (±).....	.79	7.69	3.84	.38	.38	9.04	7.85	5.93	4.69	7.31	3.07	2.74	2.92
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (0 GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef.....	.62	.84	.82	.62	.67	.58	.61	.60	.58	.79	.66	.52	.28
Partial Cor. Coef. for:													
Grade index.....	-.52	+.07	+.06	+.18	+.14	+.02	-.03	-.39	-.34	+.07	+.64	+.39	+.16
Staple length.....	-.18	+.62	+.60	+.31	+.43	-.24	-.15	+.21	+.19	+.59	-.03	+.10	+.01
Micronaire.....	+.05	-.58	-.58	-.49	-.54	+.38	+.35	-.25	-.24	-.55	-.22	-.32	.00
Fiber str. (0 gage).....	+.03	+.34	+.23	-.42	-.34	+.15	+.08	-.23	-.20	+.11	-.08	-.22	-.20
Uniformity ratio.....	-.09	+.53	+.55	+.23	+.40	+.19	+.33	-.11	-.17	+.52	+.07	-.02	+.12
Beta Coefficients for:													
Grade index.....	-.54	+.04*	+.04*	+.16	+.12*	+.02*	-.03*	-.39	-.34	+.05*	+.71	+.41	+.18*
Staple length.....	-.16	+.50	+.49	+.29	+.40	-.24	-.14*	+.20	+.18	+.51	-.02*	+.10*	+.01*
Micronaire.....	+.05*	-.48	-.51	-.55	-.59	+.41	+.36	-.26	-.25	-.50	-.22	-.37	.00*
Fiber str. (0 gage).....	+.02*	+.22	+.15	-.40	-.29	+.14*	+.07*	-.21	-.18	+.07*	-.07*	-.21	-.21
Uniformity ratio.....	-.09*	+.41	+.46	+.23	+.39	+.20	+.34	-.11*	-.17*	+.45	+.06*	-.02*	+.14*
Regression Equation:													
Constant (a).....	+23.43	-244.04	-125.28	+2.76	-3.22	+53.86	-5.21	+87.36	+72.82	-229.95	+49.39	+91.37	+93.81
Regression Coef. for:													
Grade index.....	-.11	+.10	+.05	+.01	+.01	+.04	-.05	-.55	-.37	+.10	+.56	+.26	+.11
Staple length.....	-.17	+6.11	+2.79	+.14	+.19	-2.60	-1.30	+1.50	+1.06	+5.31	-.10	+.31	+.04
Micronaire.....	+.10	-12.28	-6.12	-.55	-.59	+9.47	+7.22	-4.09	-3.05	-10.79	-1.86	-2.49	+.01
Fiber str. (0 gage).....	+.01	+.57	+.18	-.04	-.03	+.33	+.14	-.34	-.23	+.16	-.06	-.15	-.14
Uniformity ratio.....	-.06	+3.06	+1.59	+.07	+.11	+1.32	+1.95	-.49	-.60	+2.87	+.16	-.04	+.27
Standard Error (±).....	.79	6.54	3.21	.37	.35	8.87	7.41	5.89	4.62	6.25	3.06	2.74	2.90

*Statistically insignificant

Table 16.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests on 286 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1976

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable	6.2	109	36	6.0	4.4	95	76	19	15	58	92	101	105
Grayness	2	2	2	2	2	2	2	2	2	2	2	2	2
Yellowness	3	3	3	3	3	3	3	3	3	3	3	3	3
Nonlint content (S.A.)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
2.5% span length	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Micronaire	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Standard Deviation (±) for:													
Dependent variable	1.00	12.1	5.6	.47	.47	10.9	9.4	7.4	5.7	10.3	4.1	3.2	3.0
Grayness	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Yellowness	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Nonlint content (S.A.)	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97	.97
2.5% span length	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47
Simple Correlation Coef. for													
Grayness	+.47	-.26	-.24	-.29	-.24	+.04	+.03	+.30	+.28	-.21	-.77	-.48	-.22
Yellowness	+.23	-.19	-.15	-.09	-.05	-.12	-.09	+.35	+.35	-.17	-.32	-.25	-.01
Nonlint content (S.A.)	+.62	-.17	-.15	-.13	-.11	-.08	-.05	+.41	+.35	-.18	-.43	-.27	-.14
2.5% span length	-.40	+.65	+.64	+.36	+.48	-.19	-.08	+.06	+.02	+.67	+.22	+.29	+.16
Micronaire	-.18	-.23	-.25	-.37	-.35	+.51	+.53	-.44	-.45	-.23	+.04	-.24	+.13
Multiple Cor. Data for:													
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS													
Multiple Cor. Coef.	.47	.27	.24	.29	.26	.16	.12	.38	.37	.22	.77	.48	.25
Partial Cor. Coef. for:													
Grayness	+.42	-.19	-.19	-.28	-.25	+.11	+.08	+.16	+.13	-.15	-.74	-.42	-.25
Yellowness	-.01	-.08	-.04	+.07	+.08	-.16	-.12	+.24	+.25	-.07	+.11	-.01	+.12
Beta Coefficients for:													
Grayness	+.47	-.22	-.21	-.32	-.29	+.13*	+.09*	+.17*	+.14*	-.17*	-.81	-.47	-.29
Yellowness	-.01*	-.09*	-.04*	+.07*	+.09*	-.18*	-.14*	+.26	+.28	-.08*	+.08*	-.01*	+.14*
Regression Equation:													
Constant (a)	+5.42	+116.93	+38.56	+6.13	+4.49	+98.75	+78.22	+11.12	+8.87	+64.12	+96.43	+104.11	+104.96
Regression Coef. for													
Grayness	+.53	-2.91	-1.35	-.17	-.15	+1.56	+.99	+1.42	+.91	-1.95	-3.69	-1.69	-.98
Yellowness	-.01	-1.21	-.27	+.04	+.05	-2.26	-1.48	+2.22	+1.86	-1.00	+.39	-.05	+.48
Standard Error (±)	.89	11.62	5.46	.45	.45	10.74	9.29	6.83	5.29	10.00	2.59	2.81	2.93
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.)													
Multiple Cor. Coef.	.65	.27	.24	.30	.26	.22	.16	.51	.47	.24	.77	.48	.25
Partial Cor. Coef. for:													
Grayness	+.11	-.13	-.14	-.26	-.23	+.18	+.13	-.08	-.07	-.07	-.67	-.36	-.21
Yellowness	+.11	-.09	-.04	+.07	+.09	-.18	-.14	+.31	+.32	-.09	+.11	-.01	+.12
Nonlint (S.A.)	+.50	-.05	-.04	+.04	+.04	-.15	-.11	+.36	+.31	-.10	+.01	-.01	.00
Beta Coefficients for:													
Grayness	+.12*	-.18*	-.19*	-.36	-.32	+.25	+.18*	-.09*	-.08*	-.09*	-.81	-.47	-.29
Yellowness	+.10*	-.10*	-.05*	+.08*	+.10*	-.21	-.16*	+.34	+.35	-.11*	+.08*	-.01*	+.14*
Nonlint (S.A.)	+.54	-.05*	-.05*	+.05*	+.05*	-.18*	-.13*	+.41	+.35	-.12*	.00*	-.01*	.00*
Regression Equation:													
Constant (a)	+4.11	+118.51	+39.17	+6.08	-4.43	+103.56	+81.15	+3.85	+4.06	+67.05	+96.40	+104.19	+104.98
Regression Coef. for:													
Grayness	+.13	-2.44	-1.17	-.19	-.17	+3.01	+1.87	-.77	-.54	-1.07	-3.70	-1.67	-.98
Yellowness	+.11	-1.36	-.32	+.05	+.06	-2.70	-1.74	+2.88	+2.30	-1.27	+.39	-.05	+.48
Nonlint (S.A.)	+.56	-.68	-.26	+.02	+.02	-2.06	-1.26	+3.11	+2.06	-1.26	+.02	-.03	-.01
Standard Error (±)	.77	11.61	5.46	.45	.45	10.61	9.24	6.36	5.02	9.95	2.59	2.81	2.93

*Statistically insignificant

Table 16.--Continued

Statistical Items	Dependent Variables											
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH													
Multiple Cor. Coef.....	.68	.66	.64	.42	.51	.30	.19	.54	.50	.68	.77	.50	.27
Partial Cor. Coef. for:													
Grayness.....	+.08	+.03	+.03	-.17	-.11	+.11	+.10	+.01	-.01	+.09	-.67	-.31	-.17
Yellowness.....	+.10	-.08	-.03	+.09	+.12	-.19	-.14	+.33	+.33	-.09	+.11	-.01	+.12
Nonlint (S.A.).....	+.50	+.02	+.03	+.08	+.09	-.18	-.12	+.39	+.33	-.05	.00	+.01	+.01
2.5% span length.....	-.29	+.62	+.62	+.31	+.45	-.21	-.09	+.23	+.17	+.65	-.04	+.16	+.10
Beta Coefficients for:													
Grayness.....	+.08*	+.03*	+.03*	-.23*	-.13*	+.15*	+.14*	+.01*	-.01*	+.10*	-.82	-.41	-.25*
Yellowness.....	+.09*	-.07*	-.03*	+.09*	+.12*	-.22	-.16*	+.34	+.35	-.08*	+.08*	-.01*	+.14*
Nonlint (S.A.).....	+.52	+.01*	+.02*	+.09*	+.10*	-.21	-.14*	+.43	+.37	-.05*	.00*	+.01*	+.01*
2.5% span length.....	-.23	+.63	+.63	+.31	+.46	-.22	-.10*	+.21	+.16*	+.67	-.03*	+.15*	+.11*
Regression Equation:													
Constant (a).....	+10.09	-79.69	-53.32	+2.29	-1.19	+165.41	+105.01	-36.51	-19.99	-110.78	+99.59	+91.72	+96.56
Regression Coef. for:													
Grayness.....	+.09	+.45	+.21	-.12	-.07	+1.85	+1.46	+.08	-.07	+1.12	-3.75	-1.47	-.84
Yellowness.....	+.10	-1.03	-.17	+.05	+.07	-2.80	-1.78	+2.95	+2.34	-.98	+.39	-.03	+.49
Nonlint (S.A.).....	+.53	+.18	+.14	+.04	+.05	-2.33	-1.36	+3.29	+2.16	-.48	.00	+.02	+.03
2.5% span length.....	-5.36	+175.76	+81.97	+3.34	+4.96	-54.50	-21.07	+35.43	+21.16	+158.27	-2.82	+11.03	+7.44
Standard Error (±).....	.73	9.10	4.30	.42	.40	10.38	9.20	6.19	4.95	7.55	2.59	2.78	2.91
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE													
Multiple Cor. Coef.....	.68	.71	.70	.57	.62	.57	.55	.64	.61	.73	.77	.57	.30
Partial Cor. Coef. for:													
Grayness.....	+.08	+.08	+.08	-.13	-.06	+.05	+.03	+.06	+.05	+.15	-.66	-.28	-.19
Yellowness.....	+.10	-.11	-.06	+.06	+.10	-.18	-.12	+.33	+.33	-.13	+.11	-.03	+.13
Nonlint (S.A.).....	+.48	-.09	-.09	-.06	-.04	-.02	+.06	+.29	+.22	-.17	.00	-.10	+.05
2.5% span length.....	-.29	+.64	+.64	+.33	+.48	-.23	-.09	+.24	+.18	+.68	-.04	+.16	+.11
Micronaire.....	-.03	-.34	-.35	-.43	-.41	+.51	+.53	-.39	-.41	-.37	.00	-.32	+.13
Beta Coefficients for:													
Grayness.....	+.08*	+.08*	+.08*	-.16*	-.07*	+.06*	+.04*	+.07*	+.05*	+.15*	-.82	-.36	-.27
Yellowness.....	+.08*	-.10*	-.05*	+.06*	+.09*	-.18	-.12*	+.32	+.32	-.11*	+.08*	-.03*	+.15*
Nonlint (S.A.).....	+.51	-.09*	-.08*	-.07*	-.04*	-.02*	+.06*	+.31	+.23	-.15*	.00*	-.10*	+.06*
2.5% span length.....	-.23	+.63	+.63	+.30	+.45	-.20	-.08*	+.20	+.15	+.66	-.03*	+.14*	+.11*
Micronaire.....	-.03*	-.27	-.28	-.41	-.37	+.51	+.54	-.35	-.38	-.29	.00*	-.29	+.13*
Regression Equation:													
Constant (a).....	+10.36	-44.76	-36.36	+4.31	+.66	+106.07	+50.91	-9.18	+2.73	-79.36	+99.54	+101.75	+92.44
Regression Coef. for:													
Grayness.....	+.10	+1.11	+.53	-.08	-.04	+.75	+.44	+.59	+.35	+1.71	-3.75	-1.28	-.92
Yellowness.....	+.10	-1.34	-.33	+.03	+.05	-2.27	-1.30	+2.70	+2.13	-1.26	+.39	-.12	+.53
Nonlint (S.A.).....	+.52	-1.07	-.47	-.03	-.02	-.20	+.58	+2.31	+1.35	-1.61	.00	-.34	+.18
2.5% span length.....	-5.37	+173.87	+81.05	+3.23	+4.86	-51.28	-18.14	+33.95	+19.93	+156.57	-2.82	+10.49	+7.67
Micronaire.....	-.05	-6.97	-3.39	-.40	-.37	+11.85	+10.80	-5.45	-4.54	-6.28	+.01	2.00	+.82
Standard Error (±).....	.73	8.55	4.02	.38	.37	8.91	7.82	5.69	4.51	7.01	2.59	2.63	2.89

*Statistically insignificant

Table 17.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurement with processing tests performed on 286 medium staple samples, collected at triweekly intervals from selected gin points, crop of 1976

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable.....	6.2	109	36	6.0	4.4	95	76	19	15	58	92	101	105
2.5% span length.....	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Micronaire.....	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Fiber str. (1/8" gage).....	23	23	23	23	23	23	23	23	23	23	23	23	23
Uniformity ratio.....	45	45	45	45	45	45	45	45	45	45	45	45	45
Elongation (1/8" gage).....	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
Standard Deviation (±) for													
Dependent variable.....	1.00	12.1	5.6	.47	.47	10.9	9.4	7.4	5.7	10.3	4.1	3.2	3.0
2.5% span length.....	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire.....	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47
Fiber str. (1/8" gage).....	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Uniformity ratio.....	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Elongation (1/8" gage).....	.76	.76	.76	.76	.76	.76	.76	.76	.76	.76	.76	.76	.76
Simple Correlation Coef. for:													
2.5% span length.....	-.40	+.65	+.64	+.36	+.48	-.19	-.08	+.06	+.02	+.67	+.22	+.29	+.16
Micronaire.....	-.18	-.23	-.25	-.37	-.35	+.51	+.53	-.44	-.45	-.23	+.04	-.24	+.13
Fiber str. (1/8" gage).....	-.31	+.85	+.81	+.18	+.42	-.14	.00	-.02	-.02	+.76	+.14	+.09	-.06
Uniformity ratio.....	-.19	+.34	+.35	-.05	+.13	+.39	+.51	-.31	-.36	+.34	+.05	-.16	+.13
Elongation (1/8" gage).....	-.17	-.05	-.06	+.65	+.45	+.01	+.02	-.06	-.05	-.03	+.15	+.23	+.28
Multiple Cor. Data for:													
DEPENDENT VARIABLE with 2.5% SPAN LENGTH,MICRONAIRE													
Multiple Cor. Coef.....	.43	.70	.69	.53	.60	.55	.54	.45	.45	.72	.22	.38	.20
Partial Cor. Coef. for:													
2.5% span length.....	-.40	+.67	+.67	+.40	+.52	-.24	-.11	+.07	+.04	+.70	+.22	+.30	+.16
Micronaire.....	-.18	-.33	-.34	-.41	-.41	+.53	+.53	-.44	-.45	-.34	+.04	-.26	+.12
Beta Coefficients for:													
2.5% span length.....	-.39	+.66	+.65	+.37	+.49	-.20	-.10*	+.07*	+.03*	+.68	+.22	+.29	+.16*
Micronaire.....	-.17	-.25	-.26	-.38	-.36	+.52	+.53	-.44	-.45	-.25	+.04*	-.25	+.12*
Regression Equation:													
Constant (a).....	+17.54	-61.54	-41.99	+3.24	+.16	+99.31	+53.85	+36.31	+33.31	-92.46	+68.52	+85.17	+89.19
Regression Coef. for:													
2.5% span length.....	-9.05	+182.27	+83.93	+4.00	+5.29	-50.60	-20.71	+11.27	+4.52	+160.46	+20.20	+21.52	+11.27
Micronaire.....	-.36	-6.32	-3.12	-.38	-.35	+11.98	+10.50	-6.92	-5.43	-5.43	+.32	-1.69	+.78
Standard Error (±).....	.91	8.66	4.05	.40	.37	9.07	7.91	6.59	5.09	7.14	3.97	2.96	2.96
DEPENDENT VARIABLE with 2.5% SPAN LENGTH,MICRONAIRE FIBER STR. (1/8" GAGE)													
Multiple Cor. Coef.....	.45	.89	.87	.53	.62	.55	.55	.46	.46	.84	.22	.39	.26
Partial Cor. Coef. for:													
2.5% span length.....	-.27	+.44	+.43	+.38	+.38	-.21	-.17	+.13	+.09	+.50	+.17	+.31	+.23
Micronaire.....	-.20	-.37	-.37	-.42	-.40	+.53	+.54	-.45	-.46	-.34	+.04	-.27	+.10
Fiber str. (1/8" gage)...	-.14	+.78	+.72	-.08	+.18	+.02	+.14	-.13	-.11	+.62	+.02	-.12	-.17
Beta Coefficients for:													
2.5% span length.....	-.31	+.27	+.29	+.42	+.40	-.21	-.18*	+.14*	+.10*	+.38	+.20*	+.37	+.28
Micronaire.....	-.18	-.18	-.20	-.39	-.34	+.52	+.54	-.46	-.46	-.20	+.04*	-.26	+.10*
Fiber str. (1/8" gage)...	-.15*	+.68	+.63	-.09*	+.17*	+.02*	+.14*	-.14*	-.12*	+.52	+.03*	-.14*	-.20*
Regression Equation:													
Constant (a).....	+17.49	-58.49	-40.67	+3.23	+.19	+99.40	+54.35	+35.93	+33.06	-90.46	+68.56	+85.01	+88.96
Regression Coef. for:													
2.5% span length.....	-7.08	+75.41	+37.44	+4.53	+4.25	-53.77	-38.33	+24.53	+13.36	+90.37	+18.68	+27.19	+19.28
Micronaire.....	-.39	-4.67	-2.40	-.39	-.34	+12.03	+10.77	-7.12	-5.57	-4.35	+.34	-1.77	+.66
Fiber str. (1/8" gage).	-.08	+4.51	+1.96	-.02	+.04	+.13	+.74	-.56	-.37	+2.96	+.06	-.24	-.34
Standard Error (±).....	.90	5.45	2.80	.40	.37	9.07	7.83	6.54	5.06	5.62	3.97	2.94	2.92

*Statistically insignificant

Table 17.--Continued

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with 2.5% SPAN LENGTH,MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef.....	.45	.92	.90	.55	.67	.59	.61	.47	.48	.88	.22	.40	.30
Partial Cor. Coef. for:													
2.5% span length.....	-.26	+.53	+.53	+.29	+.31	-.28	-.28	+.15	+.14	+.59	+.16	+.31	+.15
Micronaire.....	-.16	-.56	-.59	-.44	-.49	+.35	+.33	-.35	-.32	-.56	+.04	-.20	+.01
Fiber str. (1/8" gage)....	-.12	+.72	+.64	-.16	+.02	-.08	-.01	-.08	-.03	+.49	+.03	-.09	-.21
Uniformity ratio.....	.00	+.47	+.51	+.18	+.32	+.23	+.32	-.08	-.15	+.49	-.01	-.05	+.14
Beta Coefficients for:													
2.5% span length.....	-.31	+.31	+.33	+.33	+.32	-.31	-.30	+.18*	+.17*	+.42	+.21*	+.39	+.20*
Micronaire.....	-.18*	-.34	-.38	-.50	-.52	+.38	+.35	-.40	-.37	-.39	+.05*	-.23	+.01*
Fiber str. (1/8" gage)....	-.15*	+.55	+.48	-.18*	+.02*	-.09*	-.02*	-.10*	-.04*	+.36	+.04*	-.11*	-.28
Uniformity ratio.....	.00*	+.28	+.33	+.20	+.33	+.25	+.35	-.09*	-.17*	+.35	-.02*	-.06*	+.17*
Regression Equation:													
Constant (a).....	+17.50	-124.72	-77.85	+2.67	-1.40	+79.70	+27.91	+40.83	+40.36	-161.47	+69.01	+86.30	+85.84
Regression Coef. for:													
2.5% span length.....	-7.07	+84.89	+42.96	+3.59	+3.34	-78.36	-64.93	+30.56	+21.80	+99.81	+19.23	+29.05	+13.99
Micronaire.....	-.39	-8.59	-4.58	-.50	-.52	+8.79	+6.91	-6.32	-4.42	-8.60	+.42	-1.54	+.04
Fiber str. (1/8" gage)..	-.08	+3.68	+1.50	-.05	+.01	-.56	-.08	-.39	-.13	+2.05	+.08	-.19	-.47
Uniformity ratio.....	.00	+2.06	+1.15	+.06	+.09	+1.71	+2.04	-.42	-.61	+2.24	-.04	-.12	+.33
Standard Error (±).....	.90	4.82	2.41	.39	.35	8.82	7.41	6.52	5.00	4.88	3.97	2.94	2.89
DEPENDENT VARIABLE with 2.5% SPAN LENGTH,MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO, ELONGATION (1/8" GAGE)													
Multiple Cor. Coef.....	.49	.92	.90	.83	.81	.59	.62	.48	.49	.88	.27	.43	.39
Partial Cor. Coef. for:													
2.5% span length.....	-.22	+.51	+.52	+.22	+.25	-.29	-.30	+.18	+.17	+.57	+.13	+.28	+.11
Micronaire.....	-.18	-.56	-.58	-.55	-.56	+.36	+.34	-.36	-.33	-.55	+.05	-.19	+.02
Fiber str. (1/8" gage)....	-.17	+.72	+.64	+.01	+.20	-.06	+.02	-.11	-.06	+.50	+.06	-.04	-.16
Uniformity ratio.....	-.01	+.48	+.51	+.31	+.42	+.24	+.33	-.09	-.16	+.50	-.01	-.04	+.16
Elongation (1/8" gage)....	-.23	+.16	+.10	+.74	+.63	+.09	+.14	-.15	-.14	+.12	+.16	+.19	+.27
Beta Coefficients for:													
2.5% span length.....	-.25	+.29	+.32	+.17	+.20	-.33	-.33	+.21	+.20*	+.41	+.17*	+.35	+.13*
Micronaire.....	-.20	-.33	-.38	-.45	-.49	+.39	+.36	-.41	-.37	-.39	+.06*	-.21	+.03*
Fiber Str. (1/8" gage)....	-.21*	+.57	+.50	+.01*	+.16	-.07*	+.02*	-.14*	-.08*	+.38	+.08*	-.06*	-.20*
Uniformity ratio.....	-.01*	+.28	+.33	+.24	+.36	+.26	+.36	-.10*	-.18*	+.36	-.01*	-.05*	+.19*
Elongation (1/8" gage)....	-.21	+.06*	+.05*	+.65	+.49	+.08*	+.11*	-.13*	-.13*	+.06*	+.16*	+.18	+.27
Regression Equation:													
Constant (a).....	+19.35	-132.05	-80.29	+.07	-3.41	+72.36	+18.62	+49.39	+46.62	-166.97	+63.32	+81.33	+78.88
Regression Coef. for:													
2.5% span length.....	-5.89	+81.01	+41.67	+1.88	+2.11	-83.11	-70.86	+36.10	+25.83	+96.88	+15.55	+25.80	+9.39
Micronaire.....	-.42	-8.46	-4.54	-.45	-.48	+8.92	+7.07	-6.48	-4.53	-8.50	+.52	-1.45	+.17
Fiber str. (1/8" gage)..	-.12	+3.80	+1.54	.00	+.04	-.42	+.09	-.55	-.24	+2.15	+.19	-.10	-.34
Uniformity ratio.....	-.01	+2.09	+1.16	+.07	+.10	+1.74	+2.07	-.46	-.63	+2.26	-.02	-.10	+.35
Elongation (1/8" gage)..	-.28	+1.03	+.34	+.40	+.30	+1.12	+1.40	-1.30	-.95	+.77	+.86	+.76	+1.07
Standard Error (±).....	.87	4.76	2.40	.26	.27	8.78	7.34	6.45	4.95	4.85	3.92	2.88	2.78

*Statistically insignificant

Table 18.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 20 long staple samples, carded yarns, collected at triweekly intervals from selected gin points, crop of 1976

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable.....	7.3	121	42	5.8	4.6	98	80	24	18	73	92	100	104
Grade index.....	93	93	93	93	93	93	93	93	93	93	93	93	93
Staple length.....	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5
Micronaire.....	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Fiber strength (0 gage)....	87	87	87	87	87	87	87	87	87	87	87	87	87
Uniformity ratio.....	45	45	45	45	45	45	45	45	45	45	45	45	45
Standard Deviation (±) for													
Dependent variable.....	1.89	14.9	7.4	.49	.61	12.4	11.9	11.0	8.1	16.9	3.3	3.8	2.0
Grade index.....	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Staple length.....	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95
Micronaire.....	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
Fiber strength (0 gage)....	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Uniformity ratio.....	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Simple Correlation Coef. for:													
Grade index.....	-.44	.00	-.04	.00	-.06	+.25	+.14	-.23	-.33	+.02	+.60	+.33	-.01
Staple length.....	+.30	+.89	+.87	+.75	+.78	-.58	-.40	+.57	+.56	+.86	+.32	+.03	+.12
Micronaire.....	-.62	-.58	-.57	-.42	-.38	+.80	+.80	-.59	-.60	-.59	-.40	-.40	+.44
Fiber strength (0 gage)....	+.14	+.07	+.02	-.24	-.22	-.36	-.16	+.25	+.24	-.01	.00	-.09	-.02
Uniformity ratio.....	-.11	+.61	+.61	+.61	+.64	-.06	+.04	+.16	+.09	+.63	+.16	-.22	+.56
Multiple Cor. Data for:													
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH													
Multiple Cor. Coef.....	.53	.89	.87	.75	.78	.63	.42	.61	.64	.86	.69	.33	.12
Partial Cor. Coef. for:													
Grade index.....	-.46	+.06	-.03	+.02	-.07	+.28	+.14	-.27	-.38	+.08	+.65	+.33	-.01
Staple length.....	+.32	+.89	+.87	+.75	+.78	-.60	-.40	+.58	+.58	+.86	+.42	+.04	+.11
Beta Coefficients for:													
Grade index.....	-.44*	+.03*	-.02*	+.01*	-.04*	+.23*	+.13*	-.22	-.32*	+.04*	+.61	+.33*	-.01*
Staple length.....	+.28*	+.89	+.87	+.75	+.78	-.58	-.39*	+.57	+.55*	+.86	+.34*	+.04*	+.11*
Regression Equation:													
Constant (a).....	+21.33	-396.11	-192.46	-8.23	-12.29	+248.21	+192.58	-111.85	-44.05	-503.92	-33.53	+43.08	+96.41
Regression Coef. for:													
Grade index.....	-.37	+.18	-.05	.00	-.01	+1.28	+.68	-1.07	-1.14	+.29	+.90	+.55	-.01
Staple length.....	+.57	+14.10	+6.76	+.39	+.51	-7.57	-4.96	+6.61	+4.73	+15.49	+1.17	+.15	+.24
Standard Error (±).....	1.61	6.75	3.62	.33	.38	9.65	10.82	8.68	6.22	8.52	2.39	3.56	1.95
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH MICRONAIRE													
Multiple Cor. Coef.....	.74	.93	.91	.76	.79	.88	.81	.73	.76	.91	.77	.56	.54
Partial Cor. Coef. for:													
Grade index.....	-.52	+.11	.00	+.03	-.06	+.37	+.15	-.27	-.41	+.13	+.70	+.39	-.05
Staple length.....	+.09	+.89	+.86	+.70	+.74	-.52	-.16	+.48	+.47	+.85	+.27	-.16	+.35
Micronaire.....	-.61	-.56	-.51	-.21	-.13	+.78	+.77	-.49	-.52	-.55	-.47	-.47	+.53
Beta Coefficients for:													
Grade index.....	-.41*	+.04*	.00*	+.02*	-.04*	+.19*	+.09*	-.19*	-.29*	+.05*	+.63	+.36*	-.04*
Staple length.....	+.07*	+.79	+.76	+.69	+.74	-.32*	-.10*	+.41*	+.38*	+.75	+.19*	-.15*	+.34*
Micronaire.....	-.57	-.28*	-.27	-.15*	-.09*	+.66	+.76	-.42*	-.44*	-.30*	-.37*	-.49*	+.58*
Regression Equation:													
Constant (a).....	+43.02	-312.36	-152.02	-6.70	-11.16	+81.83	+10.26	-17.85	+27.63	-400.74	-8.86	+80.05	+73.51
Regression Coef. for:													
Grade index.....	-.34	+.28	-.01	.00	-.01	+1.07	+.46	-.95	-1.05	+.41	+.93	+.60	-.04
Staple length.....	+.13	+12.41	+5.94	+.36	+.48	-4.21	-1.28	+4.71	+3.28	+13.40	+.67	-.59	+.70
Micronaire.....	-2.14	-8.25	-3.98	-.15	-.11	+16.39	+17.96	-9.26	-7.06	-10.16	-2.43	-3.64	+2.26
Standard Error (±).....	1.27	5.57	3.12	.32	.38	5.98	6.95	7.55	5.30	7.10	2.11	3.13	1.65

*Statistically insignificant

Table 18.--Continued

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (0 GAGE)													
Multiple Cor. Coef.....	.74	.94	.92	.86	.86	.89	.82	.74	.77	.93	.81	.64	.56
Partial Cor. Coef. for:													
Grade index.....	-.50	+.15	+.06	+.15	+.04	+.43	+.11	-.30	-.44	+.19	+.67	+.41	-.07
Staple length.....	+.09	+.90	+.87	+.78	+.80	-.55	-.16	+.48	+.48	+.88	+.29	-.18	+.35
Micronaire.....	-.59	-.62	-.59	-.45	-.35	+.76	+.77	-.44	-.47	-.67	-.57	-.56	+.55
Fiber str. (0 gage).....	+.05	-.31	-.39	-.61	-.57	-.34	+.14	+.17	+.18	-.49	-.42	-.38	+.16
Beta Coefficients for:													
Grade index.....	-.42*	+.05*	+.02*	+.08*	+.02*	+.22*	+.07*	-.22*	-.32*	+.07*	+.55	+.35*	-.06*
Staple length.....	+.07*	+.78	+.76	+.68	+.74	-.32*	-.10*	+.41*	+.38*	+.75	+.19*	-.15*	+.34*
Micronaire.....	-.56*	-.32	-.33*	-.30*	-.22*	+.61	+.79	-.38*	-.40*	-.37	-.46*	-.60*	+.63*
Fiber str. (0 gage).....	+.03*	-.13*	-.18*	-.43*	-.38*	-.18*	+.08*	+.12*	+.13*	-.22*	-.29*	-.34*	+.15*
Regression Equation:													
Constant (a).....	+42.12	-266.73	-123.40	-1.95	-6.05	+128.88	-8.44	-43.23	+9.35	-304.90	+28.68	+117.32	+67.10
Regression Coef. for:													
Grade index.....	-.35	+.36	+.08	+.02	+.01	+1.22	+.35	-1.09	-1.17	+.52	+.81	+.58	-.05
Staple length.....	+.13	+12.39	+5.93	+.36	+.48	-4.24	-1.27	+4.73	+3.29	+13.36	+.66	-.61	+.70
Micronaire.....	-2.10	-9.49	-4.84	-.29	-.26	+14.96	+18.63	-8.38	-6.38	-12.65	-3.05	-4.47	+2.44
Fiber str. (0 gage).....	+.02	-.54	-.37	-.06	-.07	-.62	+.29	+.39	+.30	-1.08	-.27	-.36	+.08
Standard Error (±).....	1.27	5.29	2.87	.25	.31	5.63	6.88	7.45	5.21	6.18	1.92	2.90	1.63
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (0 GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef.....	.74	.96	.95	.89	.89	.89	.82	.74	.77	.97	.83	.70	.75
Partial Cor. Coef. for:													
Grade index.....	-.49	-.07	-.17	-.01	-.13	+.43	+.14	-.30	-.40	-.10	+.69	+.51	-.33
Staple length.....	-.01	+.61	+.53	+.33	+.39	-.28	-.01	+.25	+.32	+.52	+.34	+.24	-.34
Micronaire.....	-.53	-.76	-.75	-.59	-.52	+.70	+.71	-.39	-.38	-.86	-.40	-.32	+.21
Fiber str. (0 gage).....	+.06	-.20	-.29	-.57	-.53	-.35	+.11	+.17	+.16	-.45	-.46	-.47	+.37
Uniformity ratio.....	+.07	+.57	+.56	+.43	+.43	-.08	-.09	+.05	-.04	+.72	-.23	-.39	+.59
Beta Coefficients for:													
Grade index.....	-.44*	-.02*	-.06*	-.01*	-.07*	+.24*	+.09*	-.24*	-.31*	-.03*	+.59	+.45*	-.25*
Staple length.....	-.01*	+.45*	+.40*	+.32*	+.38*	-.26*	-.01*	+.35*	+.43*	+.31*	+.41*	+.34*	-.48*
Micronaire.....	-.60*	-.49	-.52	-.48*	-.40*	+.64	+.83	-.41*	-.37*	-.60	-.35*	-.34*	+.21*
Fiber str. (0 gage).....	+.05*	-.07*	-.11*	-.36*	-.32*	-.19*	+.07*	+.13*	+.12*	-.14*	-.33*	-.42*	+.29*
Uniformity ratio.....	+.09*	+.39*	+.42*	+.42*	+.41	-.07*	-.10*	+.06*	-.05*	+.50	-.26*	-.57*	+.94*
Regression Equation:													
Constant (a).....	+45.10	-174.56	-73.34	+1.38	-1.92	+114.73	-28.45	-32.02	+2.19	-171.09	+17.31	+84.93	+97.09
Regression Coef. for:													
Grade index.....	-.37	-.15	-.20	.00	-.02	+1.31	+.47	-1.15	-1.12	-.21	+.86	+.75	-.22
Staple length.....	-.02	+7.07	+3.10	+.17	+.25	-3.44	-.17	+4.12	+3.68	+5.54	+1.43	+1.36	-1.00
Micronaire.....	-2.25	-14.62	-7.57	-.47	-.49	+15.73	+19.68	-8.97	-6.01	-20.18	-2.31	-2.57	+.80
Fiber str. (0 gage).....	+.03	-.28	-.23	-.05	-.06	-.66	+.24	+.42	+.28	-.70	-.31	-.46	+.17
Uniformity ratio.....	+.09	+3.19	+1.70	+.11	+.14	-.48	-.65	+.37	-.23	+4.68	-.46	-1.18	+1.02
Standard Error (±).....	1.27	4.34	2.38	.23	.28	5.61	6.85	7.44	5.21	4.29	1.86	2.68	1.31

*Statistically insignificant

Table 19.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 20 long staple samples, carded yarn, collected at triweekly intervals from selected gin points, crop of 1976

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Mean Values for:													
Dependent variable	7.3	121	42	5.8	4.6	98	80	24	18	73	92	100	104
Grayness	2	2	2	2	2	2	2	2	2	2	2	2	2
Yellowness	2	2	2	2	2	2	2	2	2	2	2	2	2
Nonlint content (S.A.)	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
2.5% span length	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Micronaire	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Standard Deviation (±) for:													
Dependent variable	1.89	14.9	7.4	.49	.61	12.4	11.9	11.0	8.1	16.9	3.3	3.8	2.0
Grayness	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8
Yellowness	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7
Nonlint content (S.A.)	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
2.5% span length	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
Simple Correlation Coef. for:													
Grayness	-.23	-.42	-.40	-.41	-.28	+.28	+.32	-.36	-.27	-.43	-.82	-.64	+.14
Yellowness	-.33	-.39	-.40	-.46	-.44	+.48	+.61	-.31	-.30	-.49	-.31	-.38	+.48
Nonlint content (S.A.)	+.74	+.26	+.23	+.11	+.15	-.64	-.52	+.62	+.72	+.24	+.04	-.05	-.34
2.5% span length	+.20	+.85	+.85	+.72	+.77	-.42	-.26	+.43	+.41	+.82	+.18	-.20	+.20
Micronaire	-.62	-.58	-.57	-.42	-.38	+.80	+.80	-.59	-.60	-.59	-.40	-.40	+.44
Multiple Cor. Data for:													
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS													
Multiple Cor. Coef.	.34	.47	.47	.51	.45	.49	.61	.40	.33	.54	.82	.65	.48
Partial Cor. Coef. for:													
Grayness	-.09	-.30	-.27	-.25	-.10	+.08	+.06	-.26	-.16	-.27	-.80	-.57	-.10
Yellowness	-.27	-.24	-.27	-.34	-.36	+.42	+.55	-.18	-.21	-.36	+.11	-.14	+.47
Beta Coefficients for:													
Grayness	-.10*	-.31*	-.28*	-.25*	-.10*	+.08*	+.05*	-.28*	-.17*	-.26*	-.85	-.59*	-.09*
Yellowness	-.29*	-.25*	-.27*	-.35*	-.39*	+.45*	+.58*	-.19*	-.22*	-.37*	+.07*	-.12*	+.52*
Regression Equation:													
Constant (a)	+9.63	+143.39	+53.76	+6.69	+5.57	+76.32	+53.40	+37.07	+27.07	+103.56	+96.18	+106.06	+100.93
Regression Coef. for:													
Grayness	-.24	-6.02	-2.71	-.16	-.08	+1.23	+.86	-4.01	-1.79	-5.84	-3.69	-2.92	-.24
Yellowness	-.80	-5.39	-2.94	-.25	-.35	+8.10	+10.13	-2.99	-2.63	-9.07	+.35	-.64	+1.49
Standard Error (±)	1.78	13.17	6.48	.42	.55	10.83	9.43	10.09	7.65	14.27	1.89	2.86	1.72
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.)													
Multiple Cor. Coef.	.80	.53	.52	.52	.46	.78	.77	.72	.78	.58	.82	.65	.57
Partial Cor. Coef. for:													
Grayness	-.15	-.31	-.28	-.25	-.11	+.12	+.08	-.34	-.24	-.28	-.80	-.57	-.10
Yellowness	-.33	-.23	-.26	-.34	-.36	+.50	+.61	-.18	-.23	-.36	+.11	-.14	+.47
Nonlint (S.A.)	+.77	+.27	+.23	+.09	+.13	-.70	-.60	+.66	+.74	+.24	+.05	-.09	-.35
Beta Coefficients for:													
Grayness	-.10*	-.31*	-.28*	-.25*	-.11*	+.08*	+.06*	-.28*	-.18*	-.26*	-.85	-.59*	-.09*
Yellowness	-.24*	-.23*	-.26*	-.34*	-.38*	+.40*	+.55	-.14*	-.17*	-.35*	+.07*	-.12*	+.50*
Nonlint (S.A.)	+.72	+.24*	+.21*	+.08*	+.12*	-.61	-.48	+.61	+.70	+.21*	+.03*	-.07*	-.31*
Regression Equation:													
Constant (a)	+4.33	+129.70	+47.88	+6.55	+5.29	+105.58	+75.47	+11.21	+4.90	+90.08	+95.83	+107.06	+103.26
Regression Coef. for:													
Grayness	-.26	-6.07	-2.73	-.16	-.09	+1.34	+.94	-4.10	-1.87	-5.89	-3.69	-2.91	-.24
Yellowness	-.65	-5.01	-2.78	-.25	-.34	+7.29	+9.52	-2.27	-2.01	-8.69	+.36	-.67	+1.42
Nonlint (S.A.)	+1.47	+3.81	+1.64	+.04	+.08	-8.14	-6.14	+7.20	+6.17	+3.75	+.10	-.28	-.65
Standard Error (±)	1.14	12.69	6.30	.42	.54	7.78	7.54	7.59	5.10	13.84	1.89	2.85	1.61

*Statistically insignificant

Table 19.--Continued

Statistical Items	Dependent Variables											
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH													
Multiple Cor. Coef.....	.80	.91	.91	.81	.83	.82	.78	.77	.81	.91	.82	.73	.66
Partial Cor. Coef. for:													
Grayness.....	-.15	-.40	-.35	-.26	-.03	+.07	+.07	-.30	-.19	-.33	-.80	-.63	-.05
Yellowness.....	-.33	-.31	-.35	-.39	-.44	+.50	+.61	-.16	-.22	-.50	+.12	-.20	+.53
Nonlint (S.A.).....	+.76	+.26	+.19	-.05	+.01	-.69	-.59	+.65	+.75	+.20	+.04	-.02	-.43
2.5% span length.....	+.04	+.87	+.87	+.73	+.77	-.39	-.12	+.37	+.37	+.86	+.06	-.42	+.40
Beta Coefficients for:													
Grayness.....	-.10*	-.20*	-.18*	-.17*	-.02*	+.04*	+.05*	-.23*	-.13*	-.17*	-.85	-.63	-.04*
Yellowness.....	-.23*	-.15*	-.18*	-.28*	-.31*	+.38*	+.54*	-.11*	-.15*	-.28*	+.08*	-.16*	+.53*
Nonlint (S.A.).....	+.72	+.11*	+.08*	-.03*	.00*	-.57	-.46*	+.56	+.66	+.09*	+.02*	-.02*	-.36*
2.5% span length.....	+.02*	+.77	+.77	+.65	+.71	-.25*	-.08*	+.27*	+.24*	+.72	+.04*	-.33*	+.34*
Regression Equation:													
Constant (a).....	+2.88	-242.53	-136.11	-3.78	-8.80	+207.69	+105.76	-84.26	-59.03	-307.75	+91.88	+147.40	+81.65
Regression Coef. for:													
Grayness.....	-.25	-3.96	-1.74	-.11	-.02	+.71	+.80	-3.37	-1.37	-3.74	-3.67	-3.14	-.11
Yellowness.....	-.65	-3.30	-1.93	-.20	-.28	+6.82	+9.38	-1.83	-1.72	-6.86	+.37	-.86	+1.52
Nonlint (S.A.).....	+1.47	+1.80	+.64	-.02	.00	-7.59	-5.98	+6.68	+5.82	+1.60	+.08	-.06	-.77
2.5% span length.....	+1.26	+322.89	+159.68	+8.97	+12.24	-88.49	-26.31	+82.57	+55.28	+345.25	+3.44	-34.99	+18.74
Standard Error (±).....	1.14	6.16	3.10	.29	.34	7.16	7.48	7.04	4.74	7.14	1.88	2.58	1.48
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE													
Multiple Cor. Coef.....	.81	.93	.92	.81	.83	.88	.84	.77	.82	.92	.82	.75	.67
Partial Cor. Coef. for:													
Grayness.....	-.08	-.28	-.23	-.25	-.06	-.15	-.12	-.25	-.13	-.23	-.77	-.58	-.09
Yellowness.....	-.17	-.01	-.07	-.34	-.41	+.17	+.35	-.05	-.09	-.30	+.14	-.02	+.40
Nonlint (S.A.).....	+.65	-.04	-.10	-.03	+.05	-.49	-.33	+.53	+.64	-.02	-.01	-.17	-.30
2.5% span length.....	+.01	+.89	+.88	+.73	+.77	-.38	-.05	+.36	+.35	+.86	+.05	-.46	+.41
Micronaire.....	-.20	-.44	-.42	+.02	+.08	+.56	+.51	-.14	-.16	-.32	-.07	-.26	+.13
Beta Coefficients for:													
Grayness.....	-.05*	-.13*	-.11*	-.18*	-.04*	-.09*	-.08*	-.20*	-.09*	-.11*	-.83	-.56*	-.08*
Yellowness.....	-.14*	-.01*	-.04*	-.29*	-.35*	+.12*	+.28*	-.04*	-.07*	-.17*	+.11*	-.02*	+.46*
Nonlint (S.A.).....	+.63	-.02*	-.05*	-.02*	+.03	-.33*	-.23*	+.50*	+.60	-.01*	-.01*	-.14*	-.29*
2.5% span length.....	+.01*	+.74	+.75	+.65	+.72	-.20*	-.03*	+.25*	+.23*	+.70	+.03*	-.36*	+.35*
Micronaire.....	-.20*	-.30*	-.30*	+.02*	+.07*	+.55*	+.54*	-.15*	-.15*	-.22*	-.07*	-.30*	+.16*
Regression Equation:													
Constant (a).....	+6.74	-195.87	-113.50	-3.90	-9.26	+137.72	+39.21	-67.27	-46.31	-268.54	+94.16	+158.86	+78.45
Regression Coef. for:													
Grayness.....	-.13	-2.53	-1.05	-.12	-.03	-1.43	-1.26	-2.86	-.99	-2.54	-3.60	-2.79	-.21
Yellowness.....	-.39	-.16	-.41	-.21	-.31	+2.11	+4.90	-.69	-.86	-4.22	+.53	-.09	+1.31
Nonlint (S.A.).....	+1.29	-.29	-.37	-.01	+.02	-4.46	-3.00	+5.92	+5.25	-.16	-.03	-.58	-.62
2.5% span length.....	+.31	+311.45	+154.14	+9.00	+12.35	-71.35	-10.00	+78.41	+52.17	+335.64	+2.88	-37.80	+19.53
Micronaire.....	-.75	-9.03	-4.37	+.02	+.09	+13.53	+12.88	-3.29	-2.46	-7.59	-.44	-2.22	+.62
Standard Error (±).....	1.12	5.54	2.81	.29	.34	5.91	6.42	6.97	4.68	6.77	1.88	2.50	1.46

*Statistically insignificant

Table 20.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 20 long staple samples, carded yarn, collected at triweekly intervals from selected gin points, crop of 1976

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
Mean Values for:	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
Dependent variable.....	7.3	121	42	5.8	4.6	98	80	24	18	73	92	100	104
2.5% span length.....	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Micronaire.....	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Fiber str. (1/8" gage).....	26	26	26	26	26	26	26	26	26	26	26	26	26
Uniformity ratio.....	45	45	45	45	45	45	45	45	45	45	45	45	45
Elongation (1/8" gage).....	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Standard Deviation (±) for:													
Dependent variable.....	1.89	14.9	7.4	.49	.61	12.4	11.9	11.0	8.1	16.9	3.3	3.8	2.0
2.5% span length.....	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire.....	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
Fiber str. (1/8" gage).....	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
Uniformity ratio.....	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82	1.82
Elongation (1/8" gage).....	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53
Simple Correlation Coef. for:													
2.5% span length.....	+.20	+.85	+.85	+.72	+.77	-.42	-.26	+.43	+.41	+.82	+.18	-.20	+.20
Micronaire.....	-.62	-.58	-.57	-.42	-.38	+.80	+.80	-.59	-.60	-.59	-.40	-.40	+.44
Fiber str. (1/8" gage).....	+.45	+.68	+.68	+.46	+.53	-.44	-.34	+.49	+.36	+.64	+.40	+.28	-.05
Uniformity ratio.....	-.11	+.61	+.61	+.61	+.64	-.06	+.04	+.16	+.09	+.63	+.16	-.22	+.56
Elongation (1/8" gage).....	-.20	+.08	+.18	+.37	+.39	+.37	+.22	-.21	-.14	+.13	-.19	-.05	+.32
Multiple Cor. Data for:													
DEPENDENT VARIABLE with 2.5% SPAN LENGTH,MICRONAIRE													
Multiple Cor. Coef.....	.62	.92	.91	.75	.78	.83	.80	.65	.65	.90	.41	.52	.56
Partial Cor. Coef. for:													
2.5% span length.....	+.04	+.88	+.87	+.69	+.74	-.34	-.05	+.33	+.31	+.84	+.07	-.36	+.38
Micronaire.....	-.60	-.67	-.64	-.32	-.26	+.78	+.79	-.54	-.56	-.64	-.37	-.49	+.53
Beta Coefficients for:													
2.5% span length.....	+.03*	+.75	+.75	+.65	+.72	-.21*	-.03*	+.28*	+.25*	+.71	+.07*	-.34*	+.35*
Micronaire.....	-.61	-.37	-.35	-.23*	-.18*	+.74	+.79	-.51*	-.53*	-.39	-.38*	-.50*	+.54*
Regression Equation:													
Constant (a).....	+14.68	-195.99	-114.63	-3.66	-8.74	+109.89	+16.36	-31.00	-14.47	-262.93	+94.68	+156.66	+73.34
Regression Coef. for:													
2.5% span length.....	+1.62	+313.50	+154.64	+9.05	+12.33	-74.14	-10.83	+86.75	+58.14	+336.90	+6.07	-35.99	+19.38
Micronaire.....	-2.30	-10.87	-5.19	-.23	-.22	+18.27	+18.81	-11.22	-8.58	-13.00	-2.53	-3.77	+2.13
Standard Error (±).....	1.49	5.87	2.97	.32	.38	6.98	7.10	8.35	6.15	7.49	3.01	3.22	1.63
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE)													
Multiple Cor. Coef.....	.63	.93	.92	.75	.79	.84	.83	.65	.66	.90	.45	.56	.57
Partial Cor. Coef. for:													
2.5% span length.....	-.02	+.84	+.84	+.65	+.69	-.42	-.21	+.27	+.35	+.80	-.03	-.43	+.28
Micronaire.....	-.49	-.52	-.50	-.28	-.16	+.78	+.80	-.45	-.55	-.53	-.23	-.32	+.53
Fiber str. (1/8" gage).....	+.12	+.29	+.28	-.02	+.12	+.28	+.34	+.07	-.17	+.15	+.20	+.25	+.17
Beta Coefficients for:													
2.5% span length.....	-.02*	+.69	+.69	+.66	+.68	-.29*	-.14*	+.25*	+.32*	+.67	-.03*	-.45*	+.28*
Micronaire.....	-.54*	-.29*	-.28*	-.24*	-.13*	+.85	+.93	-.47*	-.62*	-.34*	-.26*	-.35*	+.64*
Fiber str. (1/8" gage).....	+.13*	+.16*	+.16*	-.02*	+.10*	+.22*	+.29*	+.08*	-.18*	+.09*	+.26*	+.30*	+.19*
Regression Equation:													
Constant (a).....	+13.03	-211.97	-122.41	-3.59	-9.15	+92.12	-6.22	-36.64	-4.94	-273.19	+89.06	+149.09	+70.83
Regression Coef. for:													
2.5% span length.....	-.99	+288.33	+142.39	+9.15	+11.68	-102.14	-46.41	+77.87	+73.16	+320.74	-2.78	-47.93	+15.41
Micronaire.....	-2.05	-8.51	-4.04	-.24	-.16	+20.90	+22.14	-10.39	-9.99	-11.48	-1.70	-2.65	+2.50
Fiber str. (1/8" gage)....	+.14	+1.39	+.68	-.01	+.04	+1.55	+1.97	+.49	-.83	+.89	+.49	+.66	+.22
Standard Error (±).....	1.48	5.61	2.85	.32	.38	6.71	6.67	8.33	6.07	7.41	2.95	3.12	1.61

*Statistically insignificant

Table 20.--Continued

Statistical Items	Dependent Variables												
	Picker & card waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections		Spinning Potential	Color of 22s yarn		
		Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s	Coarse 22s	Fine 50s		Gray yarn	Bleached yarn	Dyed yarn
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.	No.	Index	Index	Index
DEPENDENT VARIABLE with 2.5% SPAN LENGTH,MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO													
Multiple Cor. Coef.....	.63	.96	.95	.82	.84	.84	.84	.66	.66	.96	.53	.58	.67
Partial Cor. Coef. for:													
2.5% span length.....	+.04	+.60	+.59	+.20	+.31	-.19	+.06	+.10	+.21	+.46	-.26	-.41	-.13
Micronaire.....	-.41	-.76	-.71	-.50	-.39	+.76	+.80	-.45	-.51	-.82	-.35	-.36	+.35
Fiber str. (1/8" gage)....	+.12	+.34	+.31	-.06	+.10	+.29	+.37	+.07	-.17	+.15	+.19	+.25	+.15
Uniformity ratio.....	-.07	+.68	+.62	+.50	+.47	-.14	-.24	+.12	+.03	+.77	+.31	+.17	+.43
Beta Coefficients for:													
2.5% span length.....	+.05*	+.36*	+.38*	+.21*	+.31*	-.19*	+.06*	+.13*	+.29*	+.25*	-.39*	-.64*	-.17*
Micronaire.....	-.51*	-.46	-.44	-.47*	-.33*	+.90	+1.03	-.54	-.64*	-.58	-.46*	-.45*	+.39*
Fiber Str. (1/8" gage)....	+.14*	+.14*	+.14*	-.05*	+.08*	+.22*	+.30*	+.07*	-.18*	+.06*	+.23*	+.29*	+.16*
Uniformity ratio.....	-.08*	+.42	+.39	+.54*	+.47*	-.12*	-.22*	+.15*	+.04*	+.55	+.46*	+.24*	+.57
Regression Equation:													
Constant (a).....	+11.97	-178.74	-107.63	-1.80	-7.63	+80.34	-28.08	-26.64	-2.80	-230.88	+96.81	+154.03	+76.43
Regression Coef. for:													
2.5% span length.....	+2.75	+150.00	+78.96	+2.91	+5.26	-64.87	+18.74	+40.72	+65.67	+120.08	-36.25	-67.87	-9.36
Micronaire.....	-1.92	-13.80	-6.49	-.46	-.40	+22.21	+24.38	-11.76	-10.26	-19.41	-2.99	-3.40	+1.54
Fiber str. (1/8" gage)....	+.15	+1.19	+.59	-.01	+.03	+1.59	+2.05	+.44	-.84	+.60	+.44	+.63	+.18
Uniformity ratio.....	-.09	+3.41	+1.58	+.15	+.16	-.84	-1.44	+.89	+.18	+5.11	+.83	+.49	+.62
Standard Error (±).....	1.47	4.13	2.24	.28	.33	6.64	6.47	8.27	6.06	4.75	2.80	3.07	1.45
DEPENDENT VARIABLE with 2.5% SPAN LENGTH,MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO,ELONGATION (1/8" GAGE)													
Multiple Cor. Coef.....	.63	.96	.96	.88	.89	.86	.84	.67	.66	.96	.54	.64	.68
Partial Cor. Coef. for:													
2.5% span length.....	+.03	+.59	+.60	+.19	+.31	-.22	+.06	+.11	+.21	+.46	-.24	-.45	-.12
Micronaire.....	-.42	-.75	-.77	-.64	-.56	+.74	+.80	-.41	-.50	-.83	-.31	-.44	+.36
Fiber str. (1/8" gage)....	+.13	+.34	+.36	-.03	+.16	+.32	+.36	+.06	-.17	+.17	+.18	+.28	+.15
Uniformity ratio.....	-.08	+.66	+.58	+.45	+.41	-.23	-.21	+.15	+.03	+.75	+.34	+.09	+.43
Elongation (1/8" gage)....	+.08	+.02	+.42	+.52	+.54	+.34	-.13	-.13	.00	+.24	-.15	+.33	-.08
Beta Coefficients for:													
2.5% span length.....	+.04*	+.36*	+.36*	+.17*	+.26*	-.21*	+.06*	+.15*	+.29*	+.24*	-.37*	-.68*	-.16*
Micronaire.....	-.54*	-.47	-.50	-.60	-.45*	+.82	+1.06	-.49*	-.64	-.60	-.40*	-.57*	+.42*
Fiber str. (1/8" gage)....	+.14*	+.14*	+.15*	-.02*	+.10*	+.24*	+.29*	+.06*	-.18*	+.07*	+.22*	+.31*	+.16*
Uniformity ratio.....	-.11*	+.41	+.34*	+.42*	+.35*	-.20*	-.19*	+.19*	+.04*	+.52	+.51*	+.12*	+.60*
Elongation (1/8" gage)....	+.08*	+.01*	+.16*	+.37*	+.36*	+.22*	-.08*	-.13*	.00*	+.08*	-.16*	+.33*	-.08*
Regression Equation:													
Constant (a).....	+12.25	-178.53	-104.88	-1.47	-7.11	+84.48	-29.36	-29.39	-2.75	-227.28	+95.59	+156.79	+76.07
Regression Coef. for:													
2.5% span length.....	+2.24	+149.66	+74.44	+2.30	+4.40	-73.51	+21.70	+45.63	+65.56	+114.40	-34.25	-72.54	-8.78
Micronaire.....	-2.02	-13.87	-7.28	-.59	-.55	+20.32	+25.07	-10.82	-10.28	-20.37	-2.64	-4.25	+1.64
Fiber str. (1/8" gage)..	+.16	+1.20	+.64	-.01	+.04	+1.71	+2.00	+.38	-.84	+.66	+.42	+.68	+.18
Uniformity ratio.....	-.12	+3.40	+1.36	+.11	+.12	-1.36	-1.25	+1.14	+.17	+4.85	+.93	+.26	+.65
Elongation (1/8" gage)..	+.28	+.17	+2.21	+.34	+.42	+5.24	-1.91	-2.61	+.06	+2.66	-.98	+2.36	-.28
Standard Error (±).....	1.47	4.13	2.03	.24	.28	6.25	6.42	8.19	6.06	4.62	2.77	2.90	1.45

*Statistically insignificant

Table 21.--Cotton: Results of multiple correlation analyses for the relationship of classification and supplemental fiber test measurements with processing tests performed on 20 long staple samples, combed yarn, collected at triweekly intervals from selected gin points, crop of 1976

Statistical Items	Dependent Variables								
	Comber waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
Mean Values for:	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
Dependent variable	15.9	143	52	6.5	5.2	108	94	10.7	8.6
Grade index	93	93	93	93	93	93	93	93	93
Staple length	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5
Micronaire	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Fiber strength (0 gage)	87	87	87	87	87	87	87	87	87
Uniformity ratio	45	45	45	45	45	45	45	45	45
Standard Deviation (±) for:									
Dependent variable	2.50	14.7	6.6	.4	.4	11.8	10.9	5.0	4.2
Grade index	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Staple length	.95	.95	.95	.95	.95	.95	.95	.95	.95
Micronaire	.50	.50	.50	.50	.50	.50	.50	.50	.50
Fiber strength (0 gage)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Uniformity ratio	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Simple Correlation Coef. for									
Grade index	+.13	-.01	+.02	-.04	-.09	+.20	+.28	-.34	-.26
Staple length	-.69	+.87	+.87	+.53	+.72	-.49	-.38	+.58	+.57
Micronaire	+.05	-.69	-.66	-.36	-.47	+.87	+.89	-.69	-.75
Fiber strength (0 gage)	+.28	+.18	+.17	-.12	-.12	-.14	-.36	+.21	+.25
Uniformity ratio	-.84	+.48	+.51	+.47	+.50	+.12	+.23	+.16	+.05
Multiple Cor. Data for:									
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH									
Multiple Cor. Coef	.70	.87	.87	.53	.72	.53	.47	.66	.62
Partial Cor. Coef. for:									
Grade index	+.15	+.02	+.09	-.04	-.11	+.21	+.29	-.40	-.30
Staple length	-.69	+.87	+.87	+.53	+.72	-.50	-.39	+.61	+.59
Beta Coefficients for:									
Grade index	+.11*	+.01*	+.04*	-.03*	-.07*	+.19*	+.27*	-.33*	-.25*
Staple length	-.69	+.87	+.87	+.53*	+.72	-.49*	-.38*	+.57	+.57*
Regression Equation:									
Constant (a)	+68.62	-344.82	-175.33	-1.49	-5.15	+234.78	+125.65	-28.58	-37.13
Regression Coef. for:									
Grade index	+.12	+.06	+.13	-.01	-.01	+.98	+1.31	-.73	-.46
Staple length	-1.81	+13.60	+6.07	+.24	+.33	-6.12	-4.33	+3.02	+2.50
Standard Error (±)	1.79	7.17	3.21	.36	.30	10.04	9.62	3.74	3.27
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE									
Multiple Cor. Coef	.74	.95	.94	.55	.75	.90	.92	.82	.84
Partial Cor. Coef. for:									
Grade index	+.18	+.11	+.19	-.03	-.09	+.31	+.49	-.46	-.37
Staple length	-.73	+.91	+.89	+.45	+.66	-.36	-.10	+.51	+.49
Micronaire	-.35	-.79	-.72	-.19	-.30	+.86	+.89	-.65	-.71
Beta Coefficients for:									
Grade index	+.13*	+.03*	+.06*	-.02*	-.06*	+.14*	+.22*	-.30*	-.22*
Staple length	-.79	+.71	+.72	+.46*	+.63	-.18*	-.04*	+.37*	+.33*
Micronaire	-.27*	-.42	-.38	-.18*	-.22*	+.79	+.86	-.52	-.61
Regression Equation:									
Constant (a)	+82.17	-220.13	-124.38	+.03	-3.18	+45.13	-63.45	+24.49	+14.25
Regression Coef. for:									
Grade index	+.14	+.21	+.19	.00	-.01	+.75	+1.08	-.66	-.40
Staple length	-2.08	+11.08	+5.04	+.21	+.29	-2.29	-.51	+1.94	+1.46
Micronaire	-1.33	-12.28	-5.02	-.15	-.19	+18.68	+18.63	-5.23	-5.06
Standard Error (±)	1.68	4.38	2.22	.36	.29	5.12	4.30	2.86	2.29

*Statistically insignificant

Table 21.--Continued

Statistical Items	Dependent Variables								
	Comber waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH (0 GAGE)									
Multiple Cor. Coef.	.79	.96	.94	.61	.80	.91	.93	.82	.84
Partial Cor. Coef. for									
Grade index	+.13	+.12	+.20	+.02	-.02	+.21	+.52	-.47	-.38
Staple length	-.77	+.91	+.89	+.47	+.69	-.37	-.11	+.51	+.49
Micronaire	-.23	-.79	-.72	-.28	-.42	+.87	+.89	-.61	-.69
Fiber str. (0 gage)	+.43	-.13	-.13	-.29	-.41	+.26	-.34	+.10	+.12
Beta Coefficients for:									
Grade index	+.08*	+.04*	+.07*	+.02*	-.01*	+.10*	+.23*	-.32*	-.23*
Staple length	-.79	+.71	+.72	+.46*	+.63	-.18*	-.05*	+.37*	+.33*
Micronaire	-.17*	-.43	-.40	-.26*	-.32*	+.83	+.81	-.50*	-.58
Fiber str. (0 gage)	+.31*	-.04*	-.05*	-.26*	-.29*	+.12*	-.14*	+.06*	+.07*
Regression Equation:									
Constant (a)	+65.37	-206.11	-116.55	+2.49	-.52	+27.01	-22.30	+19.61	+9.20
Regression Coef. for:									
Grade index	+.09	+.24	+.20	.00	.00	+.51	+1.11	-.70	-.43
Staple length	-2.08	+11.07	+5.03	+.21	+.29	-2.27	-.53	+1.95	+1.47
Micronaire	-.83	-12.68	-5.23	-.22	-.28	+19.62	+17.59	-5.03	-4.87
Fiber str. (0 gage)	+.22	-.17	-.09	-.03	-.04	+.41	-.45	+.09	+.08
Standard Error (±)	1.52	4.35	2.20	.34	.26	4.95	4.04	2.84	2.27
DEPENDENT VARIABLE with GRADE INDEX, STAPLE LENGTH, MICRONAIRE, FIBER STRENGTH, (0 GAGE), UNIFORMITY RATIO									
Multiple Cor. Coef.	.92	.96	.95	.68	.81	.93	.93	.83	.84
Partial Cor. Coef. for:									
Grade index	+.52	-.03	+.05	-.13	-.12	+.03	+.45	-.51	-.33
Staple length	-.02	+.69	+.63	-.03	+.29	-.54	-.30	+.14	+.35
Micronaire	+.37	-.81	-.76	-.44	-.48	+.78	+.82	-.62	-.58
Fiber str. (0 gage)	+.36	-.02	-.02	-.20	-.35	+.38	-.27	+.16	+.09
Uniformity ratio	-.76	+.41	+.41	+.38	+.27	+.43	+.28	+.23	-.07
Beta Coefficients for:									
Grade index	+.26*	-.01*	+.02*	-.10*	-.08*	+.01*	+.19*	-.37*	-.22*
Staple length	-.02*	+.51	+.50	-.05*	+.36*	-.48*	-.22*	+.15*	+.40*
Micronaire	+.23*	-.54	-.52	-.52*	-.46*	+.68	+.72	-.62*	-.55*
Fiber str (0 gage)	+.17*	.00*	-.01*	-.17*	-.24*	+.17*	-.11*	+.10*	+.06*
Uniformity ratio	-.88	+.23*	+.26*	+.58*	+.31*	+.35*	+.20*	+.25*	-.08*
Regression Equation:									
Constant (a)	+29.47	-151.33	-89.46	+6.57	+1.70	+99.23	+11.80	+41.03	+3.73
Regression Coef. for:									
Grade index	+.29	-.06	+.05	-.02	-.02	+.07	+.93	-.83	-.40
Staple length	-.05	+7.94	+3.46	-.02	+.16	-6.02	-2.54	+.80	+1.76
Micronaire	+1.12	-15.70	-6.74	-.45	-.40	+16.00	+15.66	-6.13	-4.59
Fiber str. (0 gage)	+.12	-.02	-.01	-.02	-.03	+.59	-.35	+.14	+.07
Uniformity ratio	-1.21	+1.87	+.94	+.14	+.07	+2.24	+1.20	+.69	-.18
Standard Error (±)	.99	3.97	2.01	.32	.25	4.47	3.88	2.77	2.27

*Statistically insignificant

Table 22.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 20 long staple samples, combed yarn, collected at triweekly intervals from selected gin points, crop of 1976

Statistical Items	Dependent Variables								
	Comber waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
Mean Values for:									
Dependent variable	15.9	143	52	6.5	5.2	108	94	10.7	8.6
Grayness	2	2	2	2	2	2	2	2	2
Yellowness	2	2	2	2	2	2	2	2	2
Nonlint content (S.A.)	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
2.5% span length	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Micronaire	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Standard Deviation (±) for:									
Dependent variable	2.50	14.7	6.6	.4	.4	11.8	10.9	5.0	4.2
Grayness	.8	.8	.8	.8	.8	.8	.8	.8	.8
Yellowness	.7	.7	.7	.7	.7	.7	.7	.7	.7
Nonlint content (S.A.)	.9	.9	.9	.9	.9	.9	.9	.9	.9
2.5% span length	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire	.50	.50	.50	.50	.50	.50	.50	.50	.50
Simple Correlation Coef. for:									
Grayness	+.10	-.45	-.44	-.31	-.40	+.38	+.22	-.30	-.36
Yellowness	+.10	-.46	-.40	-.37	-.41	+.48	+.55	-.33	-.41
Nonlint (S.A.)	-.05	+.36	+.35	+.36	+.35	-.61	-.66	+.66	+.69
2.5% span length	-.78	+.77	+.79	+.45	+.61	-.33	-.25	+.42	+.40
Micronaire	+.05	-.69	-.66	-.36	-.47	+.87	+.89	-.69	-.75
Multiple Cor. Data for:									
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS									
Multiple Cor. Coef	.12	.53	.49	.40	.48	.51	.55	.37	.46
Partial Cor. Coef. for:									
Grayness	+.06	-.30	-.32	-.16	-.26	+.21	-.04	-.19	-.22
Yellowness	+.06	-.32	-.25	-.28	-.28	+.37	+.52	-.22	-.30
Beta Coefficients for:									
Grayness	+.07*	-.30*	-.33*	-.17*	-.27*	+.21*	-.04*	-.20*	-.22*
Yellowness	+.07*	-.32*	-.25*	-.30*	-.29*	+.38*	+.57*	-.24*	-.31*
Regression Equation:									
Constant (a)	+14.95	+168.87	+61.92	+7.10	+5.85	+87.52	+72.15	+16.88	+15.06
Regression Coef. for:									
Grayness	+.23	-5.83	-2.84	-.10	-.15	+3.21	-.51	-1.29	-1.23
Yellowness	+.24	-6.87	-2.39	-.19	-.18	+6.60	+9.03	-1.73	-1.88
Standard Error (±)	2.48	12.49	5.71	.39	.38	10.16	9.07	4.65	3.72
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS NONLINT (S.A.)									
Multiple Cor. Coef	.12	.62	.59	.53	.58	.77	.83	.74	.80
Partial Cor. Coef. for:									
Grayness	+.06	-.33	-.34	-.18	-.28	+.29	-.05	-.26	-.33
Yellowness	+.06	-.32	-.24	-.27	-.28	+.43	+.64	-.24	-.36
Nonlint (S.A.)	-.04	+.39	+.37	+.37	+.37	-.68	-.74	+.69	+.75
Beta Coefficients for:									
Grayness	+.07*	-.30*	-.33*	-.17*	-.27*	+.21*	-.03*	-.20*	-.23*
Yellowness	+.06*	-.30*	-.23*	-.27*	-.27*	+.34*	+.52	-.19*	-.26*
Nonlint (S.A.)	-.04*	+.33*	+.33*	+.34*	+.33*	-.58	-.62	+.65	+.66
Regression Equation:									
Constant (a)	+15.36	+150.01	+53.61	+6.53	+5.30	+114.20	+98.41	+4.34	+4.27
Regression Coef. for:									
Grayness	+.23	-5.90	-2.87	-.10	-.15	+3.31	-.41	-1.34	-1.27
Yellowness	+.23	-6.35	-2.16	-.17	-.17	+5.86	+8.30	-1.38	-1.59
Nonlint (S.A.)	-.12	+5.25	+2.31	+.16	+.15	-7.43	-7.31	+3.49	+3.00
Standard Error (±)	2.48	11.51	5.30	.37	.35	7.49	6.06	3.35	2.48

*Statistically insignificant

Table 22.--Continued

Statistical Items	Dependent Variables								
	Comber waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH									
Multiple Cor. Coef.....	.78	.89	.89	.62	.75	.79	.83	.78	.83
Partial Cor. Coef. for:									
Grayness.....	-.04	-.34	-.38	-.15	-.26	+.27	-.06	-.22	-.28
Yellowness.....	-.03	-.40	-.29	-.26	-.28	+.42	+.64	-.23	-.35
Nonlint (S.A.).....	+.14	+.43	+.42	+.34	+.34	-.66	-.74	+.69	+.74
2.5% span length.....	-.78	+.81	+.82	+.39	+.59	-.23	-.12	+.38	+.35
Beta Coefficients for:									
Grayness.....	-.03*	-.19*	-.21*	-.13*	-.20*	+.19*	-.04*	-.16*	-.18*
Yellowness.....	-.02*	-.23*	-.16*	-.24*	-.22*	+.33*	+.52	-.16*	-.24*
Nonlint (S.A.).....	+.09*	+.22*	+.22*	+.28*	+.25*	-.56	-.61	+.60	+.63
2.5% span length.....	-.80	+.65	+.68	+.34*	+.50	-.15*	-.07*	+.26*	+.22*
Regression Equation:									
Constant (a).....	+80.08	-162.87	-92.03	+1.81	-1.70	+171.09	+122.17	-37.97	-25.43
Regression Coef. for:									
Grayness.....	-.09	-3.68	-1.85	-.08	-.11	+2.99	-.54	-1.02	-1.01
Yellowness.....	-.07	-4.91	-1.49	-.15	-.14	+5.60	+8.19	-1.19	-1.45
Nonlint (S.A.).....	+.24	+3.56	+1.53	+.13	+.12	-7.12	-7.18	+3.26	+2.84
2.5% span length.....	-56.20	+270.84	+126.08	+4.11	+6.07	-49.35	-20.63	+36.61	+25.65
Standard Error (±).....	1.55	6.77	3.05	.34	.29	7.30	6.02	3.11	2.32
DEPENDENT VARIABLE with GRAYNESS, YELLOWNESS, NONLINT (S.A.), 2.5% SPAN LENGTH, MICRONAIRE									
Multiple Cor. Coef.....	.81	.92	.92	.64	.75	.90	.95	.82	.86
Partial Cor. Coef. for:									
Grayness.....	+.07	-.19	-.24	-.21	-.26	+.02	-.51	-.09	-.15
Yellowness.....	+.16	-.06	+.07	-.32	-.26	-.05	+.33	+.03	-.08
Nonlint (S.A.).....	-.07	+.10	+.08	+.38	+.32	-.41	-.59	+.52	+.59
2.5% span length.....	-.80	+.83	+.84	+.41	+.59	-.18	.00	+.35	+.33
Micronaire.....	-.31	-.53	-.52	+.19	+.06	+.72	+.83	-.37	-.42
Beta Coefficients for:									
Grayness.....	+.05*	-.09*	-.12*	-.19*	-.22*	+.01*	-.22*	-.06*	-.09*
Yellowness.....	+.14*	-.03*	+.04*	-.36*	-.25*	-.03*	+.15*	+.02*	-.05*
Nonlint (S.A.).....	-.05*	+.05*	+.04*	+.39*	+.27*	-.24*	-.28*	+.44*	+.46*
2.5% span length.....	-.83	+.62	+.65	+.36*	+.50*	-.08*	.00*	+.23*	+.18*
Micronaire.....	-.33*	-.41*	-.41*	+.26*	+.07*	+.75	+.77	-.39*	-.39*
Regression Equation:									
Constant (a).....	+88.44	-100.18	-64.45	+.67	-2.01	+79.95	+36.27	-18.03	-8.72
Regression Coef. for:									
Grayness.....	+.17	-1.79	-1.02	-.11	-.12	+.20	-3.18	-.42	-.52
Yellowness.....	+.49	-.70	+.36	-.23	-.16	-.53	+2.41	+.15	-.33
Nonlint (S.A.).....	-.14	+.75	+.29	+.18	+.13	-3.04	-3.33	+2.37	+2.10
2.5% span length.....	-58.25	+255.49	+119.33	+4.38	+6.15	-27.01	+.43	+31.73	+21.56
Micronaire.....	-1.62	-12.12	-5.33	+.22	+.06	+17.63	+16.62	-3.85	-3.23
Standard Error (±).....	1.47	5.72	2.60	.33	.29	5.05	3.40	2.89	2.11

*Statistically insignificant

Table 23.--Cotton: Results of multiple correlation analyses for the relationship of selected fiber test measurements with processing tests performed on 20 long staple samples, combed yarn, collected at triweekly intervals from selected gin points, crop of 1976

Statistical Items	Dependent Variables								
	Comber waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
Mean Values for:									
Dependent variable	15.9	143	52	6.5	5.2	108	94	10.7	8.6
2.5% span length	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Micronaire	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Fiber str. (1/8" gage)	26	26	26	26	26	26	26	26	26
Uniformity ratio	45	45	45	45	45	45	45	45	45
Elongation (1/8" gage)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Standard Deviation (±) for:									
Dependent variable	2.50	14.7	6.6	.4	.4	11.8	10.9	5.0	4.2
2.5% span length	.04	.04	.04	.04	.04	.04	.04	.04	.04
Micronaire	.50	.50	.50	.50	.50	.50	.50	.50	.50
Fiber str. (1/8" gage)	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Uniformity ratio	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Elongation (1/8" gage)	.53	.53	.53	.53	.53	.53	.53	.53	.53
Simple Correlation Coef. for:									
2.5% span length	-.78	+.77	+.79	+.45	+.61	-.33	-.25	+.42	+.40
Micronaire	+.05	-.69	-.66	-.36	-.47	+.87	+.89	-.69	-.75
Fiber str. (1/8" gage)	-.15	+.77	+.75	+.35	+.59	-.40	-.49	+.48	+.52
Uniformity ratio	-.84	+.48	+.51	+.47	+.50	+.12	+.23	+.16	+.05
Elongation (1/8" gage)	-.48	-.05	-.03	+.33	+.25	+.26	+.46	-.13	-.19
Multiple Cor. Data for:									
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE									
Multiple Cor. Coef.	.80	.91	.91	.51	.69	.88	.89	.73	.77
Partial Cor. Coef. for:									
2.5% span length	-.80	+.83	+.83	+.39	+.57	-.18	.00	+.32	+.30
Micronaire	-.29	-.77	-.74	-.26	-.39	+.86	+.88	-.65	-.72
Beta Coefficients for:									
2.5% span length	-.83	+.62	+.65	+.38*	+.52*	-.09*	.00*	+.25*	+.20*
Micronaire	-.19*	-.51	-.47	-.25*	-.32*	+.85	+.89	-.62	-.69
Regression Equation:									
Constant (a)	+86.98	-93.22	-62.35	+2.04	-1.02	+63.14	+15.34	-4.35	+4.04
Regression Coef. for:									
2.5% span length	-58.42	+258.14	+120.80	+4.61	+6.35	-30.29	+.41	+34.52	+24.07
Micronaire	-.96	-15.07	-6.19	-.21	-.28	+19.96	+19.33	-6.14	-5.76
Standard Error (±)	1.50	5.95	2.73	.37	.32	5.65	4.96	3.45	2.65
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE)									
Multiple Cor. Coef.	.83	.94	.93	.51	.71	.90	.89	.73	.77
Partial Cor. Coef. for:									
2.5% span length	-.82	+.79	+.79	+.35	+.46	-.38	-.06	+.30	+.27
Micronaire	-.06	-.65	-.60	-.22	-.22	+.88	+.86	-.59	-.66
Fiber str. (1/8" gage)	+.37	+.49	+.44	+.01	+.26	+.45	+.14	-.03	-.01
Beta Coefficients for:									
2.5% span length	-.95	+.52	+.56	+.38*	+.42*	-.20*	-.03*	+.26*	+.21*
Micronaire	-.04*	-.38	-.35	-.24*	-.19*	+1.00	+.93	-.63*	-.69
Fiber str. (1/8" gage)	+.31*	+.28*	+.25*	+.01*	+.26*	+.30*	+.09*	-.03*	-.01*
Regression Equation:									
Constant (a)	+81.89	-120.25	-73.41	+2.02	-1.77	+39.36	+9.06	-3.38	+4.22
Regression Coef. for:									
2.5% span length	-66.44	+215.57	+103.37	+4.58	+5.17	-67.75	-9.50	+36.06	+24.35
Micronaire	-.21	-11.08	-4.56	-.21	-.17	+23.47	+20.25	-6.28	-5.78
Fiber str. (1/8" gage)	+.44	+2.35	+.96	.00	+.07	+2.07	+.55	-.08	-.02
Standard Error (±)	1.40	5.18	2.45	.37	.30	5.03	4.91	3.44	2.65

*Statistically insignificant

Table 23.--Continued

Statistical Items	Dependent Variables								
	Comber waste	Yarn skein strength		Yarn elongation		Yarn appearance		Yarn imperfections	
		22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex	22s or 27 tex	50s or 12 tex
	Pct.	Lbs.	Lbs.	Pct.	Pct.	Index	Index	No.	No.
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATIO									
Multiple Cor. Coef.....	.91	.96	.95	.65	.77	.91	.90	.74	.78
Partial Cor. Coef. for:									
2.5% span length.....	-.19	+.39	+.43	-.13	+.04	-.33	-.25	+.03	+.14
Micronaire.....	+.37	-.80	-.76	-.44	-.41	+.85	+.81	-.61	-.62
Fiber str. (1/8" gage).....	+.52	+.55	+.49	-.03	+.26	+.45	+.12	-.05	-.01
Uniformity ratio.....	-.69	+.61	+.59	+.47	+.43	+.10	+.28	+.23	+.06
Beta Coefficients for:									
2.5% span length.....	-.18*	+.21*	+.26*	-.17*	+.04*	-.26*	-.20*	+.04*	+.15*
Micronaire.....	+.23*	-.53	-.50	-.53*	-.41*	+.97	+.84	-.74*	-.72
Fiber str. (1/8" gage).....	+.34*	+.26*	+.23*	-.03*	+.23*	+.30*	+.08*	-.04*	-.01*
Uniformity ratio.....	-.63	+.35	+.36*	+.67*	+.50*	+.07*	+.21*	+.26*	+.06*
Regression Equation:									
Constant (a).....	+52.21	-79.68	-57.62	+3.85	-.81	+43.99	+21.91	+5.14	+5.95
Regression Coef. for:									
2.5% span length.....	-12.79	+88.63	+47.77	-2.07	+.53	-86.96	-60.97	+5.90	+18.09
Micronaire.....	+1.14	-15.52	-6.58	-.45	-.35	+22.73	+18.30	-7.38	-6.01
Fiber str. (1/8" gage).....	+.49	+2.19	+.89	-.01	+.06	+2.04	+.47	-.13	-.02
Uniformity ratio.....	-.87	+2.86	+1.31	+.16	+.12	+.47	+1.26	+.71	+.15
Standard Error (±).....	1.01	4.09	1.98	.33	.27	5.01	4.71	3.35	2.64
DEPENDENT VARIABLE with 2.5% SPAN LENGTH, MICRONAIRE, FIBER STR. (1/8" GAGE), UNIFORMITY RATION, ELONGATION (1/8" GAGE)									
Multiple Cor. Coef.....	.93	.96	.95	.73	.82	.91	.91	.74	.78
Partial Cor. Coef. for:									
2.5% span length.....	-.21	+.40	+.44	-.18	.00	-.32	-.28	+.03	+.13
Micronaire.....	+.46	-.78	-.74	-.54	-.51	+.85	+.79	-.60	-.62
Fiber str. (1/8" gage).....	+.53	+.55	+.48	.00	+.30	+.45	+.14	-.04	-.01
Uniformity ratio.....	-.67	+.62	+.60	+.42	+.37	+.15	+.23	+.21	+.04
Elongation (1/8" gage).....	-.37	-.13	-.12	+.42	+.41	-.18	+.22	+.05	+.07
Beta Coefficients for:									
2.5% span length.....	-.18*	+.22*	+.26*	-.22*	.00*	-.25*	-.21*	+.04*	+.15*
Micronaire.....	+.29*	-.51	-.49	-.66	-.52*	+1.00	+.80	-.76*	-.74*
Fiber str. (1/8" gage).....	+.33*	+.25*	+.23*	.00*	+.26*	+.29	+.08*	-.04*	-.01*
Uniformity ratio.....	-.57	+.37*	+.38*	+.53*	+.39*	+.11*	+.17*	+.24*	+.05*
Elongation (1/8" gage).....	-.18*	-.04*	-.04*	+.39*	+.32*	-.10	+.12*	+.04*	+.06*
Regression Equation:									
Constant (a).....	+53.25	-80.64	-58.15	+4.18	-.45	+41.42	+24.67	+5.56	+6.40
Regression Coef. for:									
2.5% span length.....	-12.85	+90.65	+48.75	-2.66	-.03	-82.67	-65.66	+5.14	+17.28
Micronaire.....	+1.46	-15.07	-6.39	-.57	-.45	+23.50	+17.45	-7.54	-6.17
Fiber str. (1/8" gage).....	+.47	+2.16	+.88	.00	+.06	+1.99	+.53	-.12	-.01
Uniformity ratio.....	-.78	+2.98	+1.36	+.13	+.09	+.68	+1.02	+.67	+.10
Elongation (1/8" gage).....	-.87	-1.24	-.54	+.32	+.26	-2.13	+2.38	+.42	+.44
Standard Error (±).....	.94	4.05	1.96	.30	.25	4.92	4.59	3.35	2.63

*Statistically insignificant

MEASURES USED IN STATISTICAL ANALYSIS

Some of the statistical concepts used in this study may be unfamiliar to many who will find the information in this report useful. Results reported in this study include the means, standard deviations, simple and multiple correlation coefficients, beta values, partial correlation coefficients and regression equations for each cotton quality measurement. Formulas of each of these results may be found in any good textbook on statistical correlation. However, for those not familiar with these concepts the following common language explanation is given for each item as it is used in this report:

(1) Mean Value is the simple arithmetical average of each measured property for the spinning lots included in the study.

(2) Standard deviation is a measure of dispersion around the mean value, expressed in the same terms as the variable. For a normal distribution, approximately 68 percent of the values will be within plus or minus one standard deviation of the mean, 95 percent within plus or minus two standard deviations, and nearly all values will be within plus or minus three standard deviations.

Example: (from Table 15, column 1, page 76)
The mean or average value for picker and card waste, the dependent variable is 6.2 percent and the standard deviation is 1.00 percent. This indicates that 68 percent of the lots tested in the medium staple group should contain between 5.2 and 7.2 percent waste (6.2 ± 1.00). Ninety-five percent of the lots tested would have from 4.2 to 8.2 percent waste (6.2 ± 2.00) and nearly all of the test lots would show values between 3.2 and 9.2 percent (6.2 ± 3.00).

(3) Simple correlation coefficient (r) is a measure of the linear relationship between two variables, ie. how one variable is associated with the other. A correlation coefficient of 0 indicates no relationship, and 1.0 indicates a perfect relationship. A plus sign before the correlation coefficient indicates that the values for both variables change in the same direction, whereas a minus sign indicates that they change in opposite directions.

Example: (from Table 15, column 1, page 76)
The simple correlation coefficient (r) of grade index with picker and card waste is -.59. This indicates that grade index and picker and card waste are related. It further indicates by the - sign that as one goes up or down the other goes in the opposite direction.

(4) Multiple correlation coefficient (R) is a measure of the linear relationship between one dependent variable and two or more independent variables. It has no plus or minus sign because one independent variable may contribute positively, and another negatively, in explaining the variation in the dependent variable. The multiple R may fall between 0 and 1.0, with 0 indicating no relationship and 1.0 a perfect relationship.

Example: (from Table 15, column 1, page 76)
The multiple R for the dependent variable of picker and card waste with independent variables of grade index, staple length and micronaire is .62. This indicates that the combination of grade index, staple length and micronaire shows a definite relationship to picker and card waste. It does not explain, however, whether grade index, staple length and micronaire contribute postively or negatively to picker and card waste or which of the three is most important.

(5) Although the coefficient of determination (R^2, or r^2) is not given, it may be easily obtained by squaring the simple r's or multiple R's and multiplying by 100. This gives the percentage of variation explained, a measure of the amount of variation in the dependent variable which is explained by variation in the independent variables.

Example:
The multiple R in the example above is .62. When squared and multiplied by 100 the result is 38.4. This means that 38.4 percent of the variation in picker and card waste is explained by grade index, staple length and micronaire. The remaining 61.6 percent of the variation is unexplained.

(6) Partial correlation coefficient (r) in a multiple analysis is similar to a simple correlation coefficient. The simple r indicates the statistical relationship between two variables without any control of other variables. In a multiple analysis, the partial correlation coefficient is one measure of the net relationship between one independent variable and the dependent variable while the influence of the other independent variables are statistically removed.

Example: (from Table 15, column 1, page 76)
The partial correlation coefficients (r) for picker and card waste with grade index, staple length and micronaire are: -.52 for grade index, -.20 for staple length and .00 for micronaire. This shows that picker and card waste is related to grade index and that when one goes up or down the other goes in the opposite direction. It further shows that staple length and micronaire have less affect on picker and card waste than grade index since the values for these two variables are much smaller.

(7) Beta coefficients (B) in a multiple correlation are sometimes preferred over use of partial r's. A Beta coefficient is another measure of the relative importance of a variable in a multiple correlation, with the influence of the other variables removed. Quite often, only one of these measures (Beta or partial r) is used for interpretation; both are included in this report. An asterisk beside the Beta value indicates that the result is statistically insignificant (less than three times its standard error).

Example:
The Beta (B) coefficients in the above example are -.53 for grade index, -.18 for staple length and .00* for micronaire. This shows the same relative results as the partial correlation coefficients (r) and the * further indicates that the .00 Beta value for micronaire is statistically insignificant.

(8) Regression equation or estimating equation is used to predict changes in the dependent variable which will result from changes in the independent variable or variables. It is written:

$$Y = a + b_1X_1 + b_2X_2 + \ldots b_NX_N$$

where Y is the dependent variable and the X's are independent variables.

The constant "a" indicates the starting point or height of the regression line when it is to be plotted on a graph or to be used in calculating changes in the dependent variable. The regression coefficient "b" indicates the change in the dependent variable that is associated with each unit change in the independent variable. The spread or scatter of the data around the regression line is measured by the standard error. The standard error has the same relationship to the regression line as the standard deviation has to the mean value. (see paragraph (2) above)

Example: (from Table 15, column 1, page 76)

Regression equation for picker and card waste:

Constant (a)	+22.08
Regression coefficients (b)	
Grade index	-.10
Staple length	-.18
Micronaire	-.01
Standard error	±.79

With regression coefficients (b) of -.10 for grade index, -.18 for staple length and -.01 for micronaire reading the following average conditions should exist:

1. With any unit change in grade index, picker and card waste percentage should change .10 in the opposite direction.

2. With any unit change (32nd) in staple length, picker and card waste percentage should change .18 in the opposite direction.

3. With any unit change (1.0) in micronaire reading, picker and card waste percentage should change .01 in the opposite direction.

Expressing this equation algebraically we have:

Estimated picker and card waste (percent) =
22.08 - .10 (grade index) - .18 (staple length) - .01 (micronaire)

Thus if we wished to predict the amount of picker and card waste from a bale of cotton of Strict Low Middling (94 index), a staple length of 1-1/16 inches (34 32ds) and a micronaire of 4.3, the equation would be:

$$\text{Estimated picker and card waste} = 22.08 - .10(94) - .18(34) - .01(4.3)$$

$$\text{Estimated picker and card waste} = 6.52\%$$

The standard error of the equation of ±.79 indicates that actual picker and card waste obtained from this kind of cotton would be within plus or minus .79 percent (between 5.73 and 7.31) 68 times in 100.

A check on the accuracy of this figure can be made from the average results for SLM grade, 1-1/16 inch staple, in Table 3 for the different Areas.

Regression equations are given in the tables for multiple relationships only. Equations for simple relationships may be calculated by using the formula:

$$Y = a + bX$$

$$\text{where } a = \text{Mean } Y - b(\text{Mean } X)$$

$$b = r \frac{\text{Std. Dev. } Y}{\text{Std. Dev. } X}$$

INTERPRETING STATISTICAL DATA

In referring to the data presented in the tables of this report, it is well to keep in mind several factors which influence the results and could lead to erroneous conclusions.

Correlation values are significantly influenced by the specific variables included, and by their number. This is due to the interrelationships of fiber properties. As interrelated properties are added to a correlation, the specific contribution of a given property may decrease sharply while at the same time the overall correlation will increase. For example, a correlation of staple length with yarn strength usually shows a good relationship, with a large amount of the variation in yarn strength explainable by differences in staple length. But, as other measures are taken into consideration, particularly fiber strength at 1/8-inch gage, the importance of staple length in explaining the total variation in yarn strength decreases rather sharply, even though the total variation explained is increased. This situation occurs because fiber strength is more closely related to yarn strength than is staple length. Yet, when fiber strength is not included in the correlation, some of the effects of strength are evidenced through the interrelation of strength and staple length.

Perhaps the most important fact to be kept in mind is that the use of only one statistic, such as a multiple R, a partial r, or a Beta value, can lead to erroneous conclusions. In order to determine the importance of any variable, all of the statistical items for each study should be considered.

BASIS FOR INTERPRETATION OF TEST RESULTS

The following explanation of the data published in Tables 1 through 8 of this report may be helpful in the interpretation of test results:

Classification

Classification was made in accordance with the official Cotton Standards for grade and staple length. These results are presented under the usual terms for the individual lots but the grade values were converted to an index for averaging in the summary tables.

Grade index, as reported in the summary tables is designed to reflect differences in market value and provides a method for averaging the grade for a number of individual lots. Middling grade is used as the basis of 100, and higher or lower index numbers reflect higher or lower average market values, respectively. Index values for the various grades of upland cotton are shown below:

Grade		Grade Index						
Name	Code	Plus (0)	White (1)	Light Spotted (2)	Spotted (3)	Tinged (4)	Light Gray (5)	Gray (6)
Good Middling	(1)		105	103	101		99	93
Strict Middling	(2)		104	102	99	91	98	91
Middling	(3)	102	100	97	93	82	92	84
Strict Low Middling	(4)	97	94	89	83	75	85	75
Low Middling	(5)	90	85	80	75	68		
Strict Good Ordinary	(6)	81	76					
Good Ordinary	(7)	73	70					
Below Grade	(8)		60					

The grade of cotton is obtained by evaluating color, leaf and preparation in relation to the official standards. Grade provides an indication of fiber color and the waste content of a sample of cotton. Experience has shown the average relationship between picker and card waste and various grades of upland cotton to be approximately as given in the tabulation shown in the

subsequent section on manufacturing waste. In comparing these average grade figures with the picker and card waste data, it should be understood that variations from the averages for individual samples are attributable to the nature of the extraneous material present in the cotton, the characteristics of the fiber, and whether the grade designation was low because of poor color.

Staple length is the length of a typical portion of the fibers in the samples as determined by the classer in comparison with official standards. Uniformity of fiber length, as well as other fiber properties, influence to some extent the classer's selection of the typical portion of the fibers on which the staple length designation is based. In general, there is a fairly close relationship between the staple length as designated by the classer and the fineness and strength of the yarn that can be manufactured from the cotton. These relationships, however, are also influenced by other fiber properties, the measurements of which will be discussed in the paragraphs which follow.

Fiber Tests

Fiber length data were obtained by the Digital Fibrograph method for the short, medium and long staple American upland samples and by the array method for the extra long American Pima and upland samples. Briefly, the Digital Fibrograph method consists of placing representative specimens of cotton weighing approximately 30 centigrams at random on a pair of combs, parallelizing the beards of cotton extending from one side of the combs, and scanning these beards photoelectrically on the instrument at 3 length intervals beginning at 0.15 inch from the teeth of the combs and ending near the outer fringe. The 2.5 percent span length and the 50/2.5 uniformity ratio values reported for each lot are based on five specimens tested by each of two technicians.

The Digital Fibrograph 2.5 percent span length values reported indicate the length which will be spanned by 2.5 percent of the fibers when they are parallel and randomly distributed. It is also the length where the amount of fibers indicated by the instrument is 2.5 percent of the amount at the starting point of 0.15 inch. The Digital Fibrograph 2.5 percent span length values are closely related to staple length designations.

The Digital Fibrograph 50/2.5 uniformity ratio values reported indicate the relative uniformity of fiber length in the samples. They represent the ratios between the 50 percent span length and the 2.5 percent span length, expressed as percentages. Larger values indicate more uniform fiber length distribution. Unusually low fiber length uniformity tends to increase manufacturing waste, to make processing more difficult, and to lower the quality of the product. The following adjective descriptions will serve to classify cottons from the standpoint of 2.5 percent span length and fiber length uniformity:

2.5 percent span length		50/2.5 uniformity ratio	
Below 1.00	Short	Below 41	Very low
1.00 - 1.14	Medium	41 - 43	Low
1.15 - 1.29	Long	44 - 46	Average
Above 1.29	Extra-long	47 - 48	High
		Above 49	Very high

Data source - 2076 American upland lots tested from the crops of 1971-75.

Array tests for the extra long staple American Pima and upland samples were performed on the Suter-Webb fiber sorter. Briefly, this method consists of parallelizing the fibers in a representative 75-milligram specimen of cotton through a series of combs, separating the fibers into length groups at 1/8-inch intervals, and weighing the fibers in each length group. The upper quartile length and coefficient of variation values reported are based on one specimen tested by each of two technicians.

The array upper quartile length values reported indicate the length which is exceeded by 25 percent of the weight of the fibers in the samples. They are closely related to and longer than both the Fibrograph and the classer's staple designations. This relationship may vary, however, because the methods measure different fiber length characteristics.

The array coefficient of length variation values reported indicate the relative variability of fiber length in the samples. They represent the standard deviation of the weight-length frequencies expressed as a percentage of the mean length. Smaller values indicate more uniform fiber length distributions. Excessive fiber length variation tends to increase manufacturing waste, to make processing more difficult, and to lower the quality of the product. It is, therefore, considered desirable for a cotton to have a low coefficient of variation. The following adjective descriptions will serve to classify cottons from the standpoint of upper quartile length and fiber length variation:

Upper Quartile Length		Coefficient of Fiber Length Variation	
Below 1.10	Short	Below 26	Very low variation
1.10 - 1.24	Medium	26 - 29	Low variation
1.25 - 1.39	Long	30 - 33	Average variation
Above 1.39	Extra Long	34 - 37	High variation
		Above 37	Very high variation

Data source - 830 American upland lots tested from the crops of 1958-60 (more recent data not available).

Fiber fineness and maturity in combination were determined by the micronaire test. This is an instrument test which measures the resistance of a plug of cotton to air flow. A representative standard weight of cotton fibers is placed in the instrument specimen holder and compressed to a fixed

volume. Air at a known pressure is forced through the specimen and the amount of flow is indicated by a direct reading scale. Readings obtained are relative measures of either the weight per unit length, or the cross sectional size of the fibers. Because the instrument measures may differ from the actual weight per inch, depending upon the fiber characteristics of the sample, the results are reported in terms of "micronaire reading" instead of micrograms per inch. These readings are taken from the curvilinear scale adopted in 1950, and now in international use. Fiber fineness contributes to yarn strength, particularly when fine numbers are spun, but it also tends to increase neppiness and to require a reduced rate of processing.

Fiber maturity, also an important factor affecting the appearance of yarns and fabrics, is a desirable characteristic from the standpoint of low picker and card waste. Immature fibers are susceptible to the formation of neps, and contribute to lower yarn appearance grades. The desirability of micronaire reading, therefore, depends on the specific end product or use of the cotton.

Several instruments, including the Micronaire, Fibronaire, and Port-Ar, may be used for these tests. All instruments now use the same scale and report results in the same terms, i.e. "micronaire reading". The micronaire reading is now a part of the official standards for upland cotton along with grade and staple length.

Fiber strength is an important factor in determining yarn strength. Cottons with good fiber strength usually give less trouble in the manufacturing processes than the weak fibered cottons. Tests for fiber strength were made without a space between the clamp jaws (0 gage) using the Pressley flat bundle tester, and with a 1/8-inch spacer between the clamp jaws (1/8-inch gage) using the Stelometer. Strength results from both the Pressley and the Stelometer were controlled at the same level by use of standard calibration cottons. Use of the Stelometer also provides a measure of fiber elongation. Comparative tests have shown that the results of the 1/8-inch gage tests are more highly correlated with yarn strength than the results of the zero gage tests. Results for both methods are reported, however, because the zero gage tests are widely used by the cotton industry.

The results for the Pressley zero gage test are reported in terms of thousand pounds per square inch, as calculated by the use of Formula 1. These results may be converted to other methods of expressing fiber strength by use of Formulas 2, 3, and 4:

(1) Thousand pounds per square inch (Mpsi) =

$$\frac{\text{breaking load in lb} \times 10.81}{\text{bundle weight in mg}}$$

(2) Grams per tex (gm/tex) = Mpsi x 0.496

(3) Strength-weight ratio = Mpsi ÷ 10.81

(4) Strength-weight ratio = gm/tex ÷ 5.36

The results of the 1/8-inch gage tests are reported in terms of grams per tex in accordance with the recommendations of the American Society for Testing and Materials (ASTM), and the International Standards Organization (ISO). A tex unit is equal to the weight in grams of 1000 meters of the material. There is a correlation between the 1/8-inch gage strength test results and fiber length. Cottons with short lengths tend to have lower average strength values than long staple cottons. Results for 1/8-inch gage tests are calculated by use of Formula 5. Stelometer results are adjusted to Pressley level by use of calibration cottons.

$$(5)\quad \text{Grams per tex} = \frac{\text{breaking load (kg) x 15}}{\text{bundle weight in mg}}$$

The following descriptive terms may be applied to the data shown in this report:

Staple length group and descriptive designation	Zero gage strength (thousand psi)	1/8-inch gage strength (grams per tex)
Short staple:		
Low	75 - 79	18 - 19
Average	80 - 84	20 - 21
High	85 - 89	22 - 23
Medium staple:		
Low	74 - 80	19 - 21
Average	81 - 87	22 - 24
High	88 - 94	25 - 27
Long staple:		
Low	77 - 83	20 - 22
Average	84 - 90	23 - 25
High	91 - 97	26 - 28
Extra-long staple:		
Low	95 - 98	29 - 31
Average	99 - 102	32 - 34
High	103 - 106	35 - 37

Data source - 317 short staple, 1,565 medium staple, 194 long staple, and 100 extra-long staple lots of cotton tested from the crops of 1971-75.

Fiber elongation results were obtained in connection with the 1/8-inch gage fiber strength tests by using the Stelometer instrument. The following adjective ratings will assist in the interpretation of the fiber elongation results reported:

Descriptive designation	Fiber elongation (percent)
Very low	5.2 and below
Low	5.3 - 6.1
Average	6.2 - 7.0
High	7.1 - 7.9
Very high	8.0 and above

Data source - 2076 American upland lots tested from the crops of 1971-75.

Color measurements were made on samples of raw stock from each lot by using the Nickerson-Hunter Colorimeter. The basic color values reported are in terms of grayness and yellowness scales designed especially for cotton. The grayness scale ranges from 0 for the brightest samples (no gray) through 9 for the darkest color. The yellowness scale ranges from 0 for the lightest color (no yellow) to 9 for the yellowest color. In other words, the larger the number reported the darker or yellower the cotton becomes. The relationship of these new cotton color scales to Rd and +b values and to the color of the Universal Grade Standards for upland cotton is shown in Figure 2 and for American Pima cotton in Figure 3.

The color of raw cotton is also reported as a single index number. The relationship of the index number to Rd and +b and the color of the Universal Grade Standards for upland cotton is shown in Figure 4.

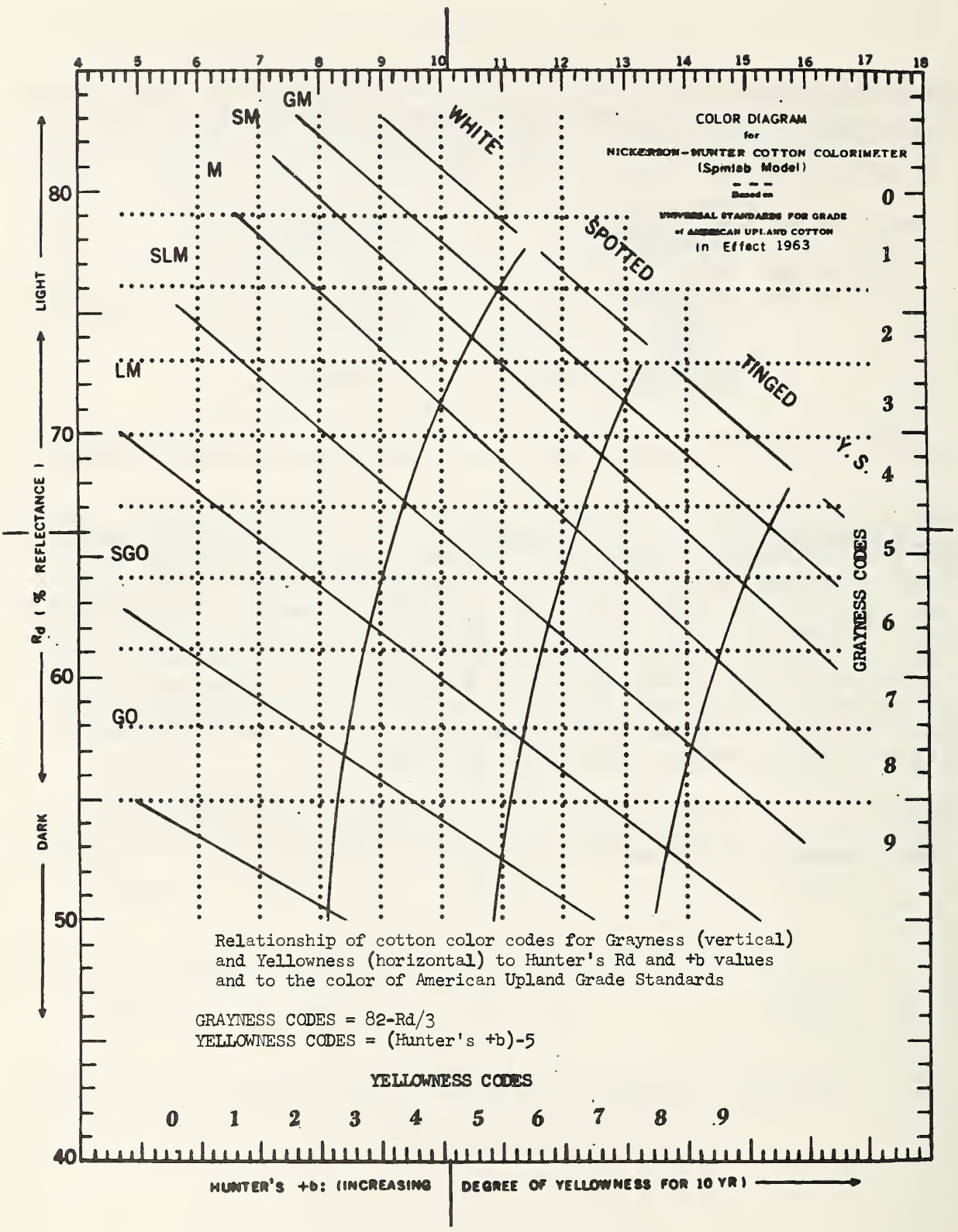


Fig. 2--Colorimeter diagram for upland cotton

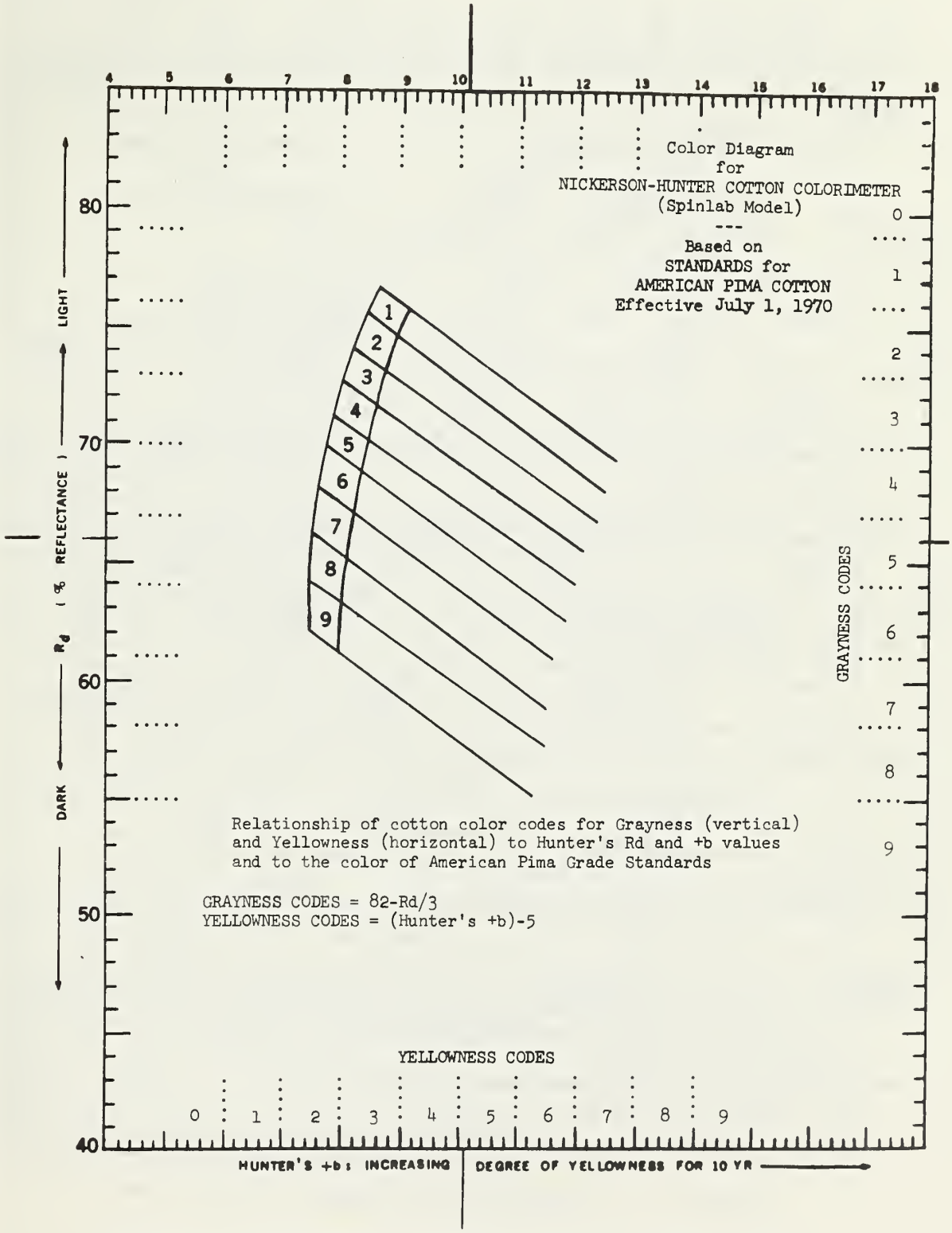


Figure 3.--Colorimeter diagram for American Pima cotton.

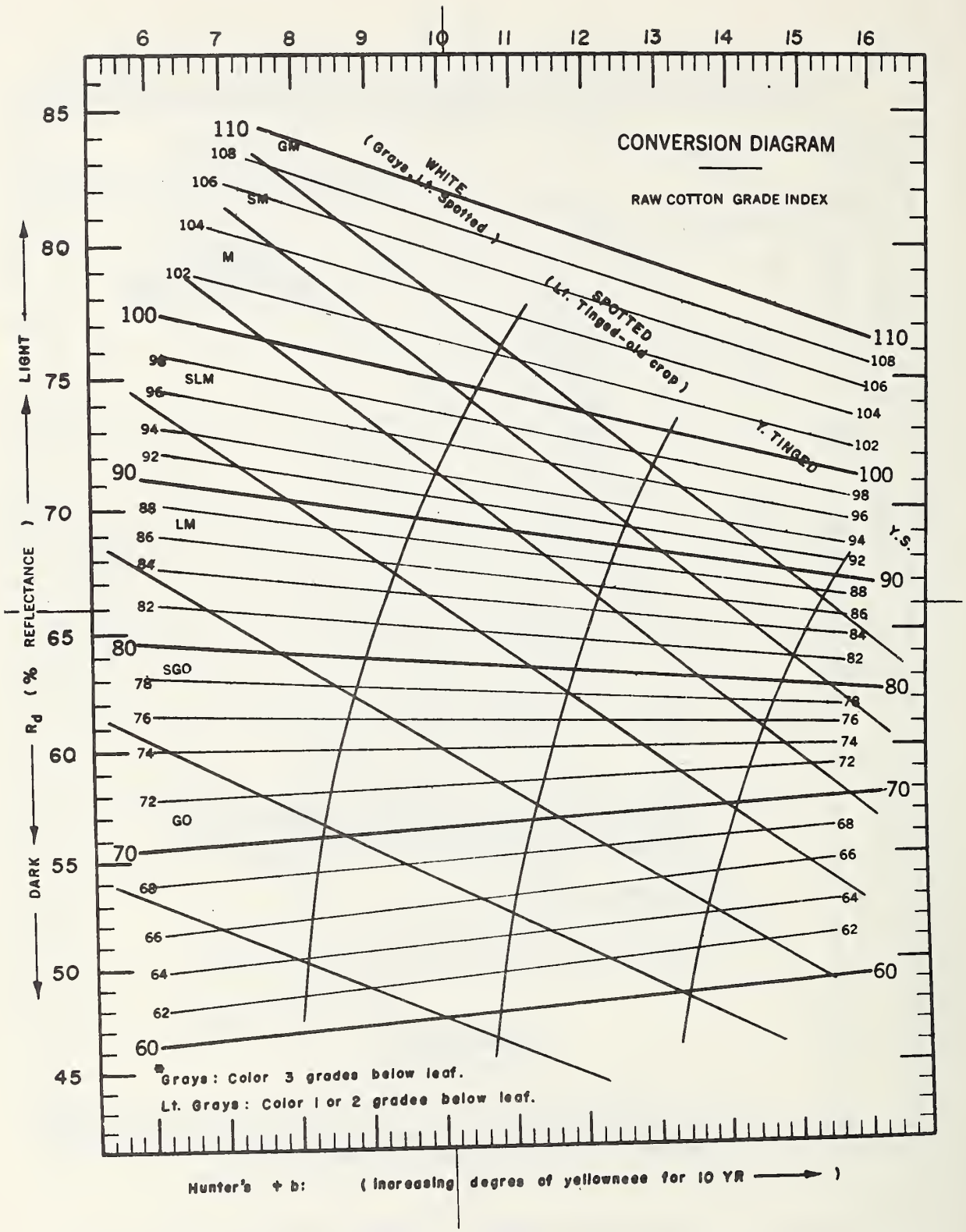


Fig. 4--Conversion diagram for converting raw cotton color to color index

Nonlint content for the various lots was determined by the use of the Shirley Analyzer which separates the lint from the foreign matter. The total nonlint values reported include both visible and invisible loss. These results are distinguished from total picker and card waste in that practically no fiber is included, whereas textile mill wastes include appreciable amounts of fiber. Tests performed in previous years show the following average relationship of Shirley Analyzer nonlint to grade:

American upland grade	Code	Average nonlint content (percent)
Strict Middling	(21)	1.8
Middling	(31)	2.2
Strict Low Middling	(41)	3.0
Low Middling	(51)	4.2
Strict Good Ordinary	(61)	5.4
Good Ordinary	(71)	6.7

Data source - 4656 American Upland Color and Trash Survey samples tested from crops of 1971-75.

The following scale has been developed to represent the average nonlint content for grades of American Pima cotton:

American Pima grade	Average nonlint content (percent)
2	2.4
3	2.7
4	3.5
5	4.3
6	5.8
7	7.3
8	9.6
9	10.6

Data source - 1329 American Pima Color and Trash Survey samples tested from the crops of 1971-75.

Differences between results obtained for individual lots and the average percentages shown for the grades may be caused by: (1) Grade is a combination of color, leaf and preparation; any one of which may be the limiting factor, (2) there is a range of trash allowable within each specific grade and (3) these data are based on weight and do not take into consideration the nature of the trash, which may be as important as weight in determining the final grade.

Yarn Processing Tests

The results of yarn processing tests reported in this summary were obtained by procedures adopted in 1962 which include heavier weights for laps, slivers and rovings than those used in previous years. These procedures also include spinning from single roving instead of double roving for the two standard yarn numbers and the spinning of a third yarn number on all the samples to provide a small-scale measure of spinning end-breakage or spinning performance. In 1965, metallic card clothing was installed on the carding machines to replace the conventional fillet clothing used previously, and in 1966, crusher rolls were installed on the card machines. These changes reflect similar changes that have taken place in the cotton textile industry including increased emphasis on running quality since the mid-1940's when long-draft systems were adopted for both the roving and spinning processes in the routine laboratory spinning test procedures. These changes were designed to bring the laboratory processing procedures more in line with current textile mill practices and thus make the processing evaluations more applicable to present day mill operations.

The card production rate employed and the yarn numbers spun for each cotton were selected on the basis of the staple length expected in the specified area of growth as described in the earlier section on test procedures. Four different length groupings were used to cover the range of cottons grown in this country and to approach commercial practices in processing these cottons. The spinning twist multipliers were selected to provide maximum yarn strength on the basis of staple length. Details of the spinning test procedures are shown at the end of this section of the report (Table 24). Results of previous tests show that decreasing the card production rate results in fewer neps, improved yarn appearance grades, and removal of more waste at the card. Results of tests on the various lots should therefore be compared directly for only those lots in the same length group which were processed in a comparable manner.

Manufacturing waste reported for a sample of cotton is important because excessive waste increases the cost of cotton products. The percentage of waste extracted by the picking and carding processes in performing a spinning test provides a measure of manufacturing waste. There is an average relationship between this waste and grade as discussed in the previous section on the grade of cotton. The rate at which the cotton is carded, however, affects the picker and card waste values because the more thorough carding action obtained when the carding rate is decreased extracts a larger quantity of waste. The longer staple cottons are generally carded at a lower rate than the shorter cottons in order to obtain acceptable yarn quality. Tests performed in recent years show the following average relationship of picker and card waste to grade:

American upland grade	Code	Average picker and card waste (percent)	American Pima	Average picker and card waste (percent)
Strict Middling	(21)	5.0	2	7.7
Middling	(31)	5.3	3	7.9
Strict Low Middling	(41)	5.9	4	8.4
Low Middling	(51)	6.9	5	8.8
Strict Good Ordinary	(61)	7.8	6	9.7
Good Ordinary	(71)	8.8	7	10.6
			8	12.0
			9	12.6

Data source - 4656 samples of American upland cotton and 1329 samples of American Pima cotton tested for Shirley Analyzer nonlint content from the crops of 1971-75 and picker and card waste calculated from its relationship to Shirley Analyzer nonlint content.

The percentage of waste removed by the comber is reported in addition to the picker and card waste for cottons processed into combed yarn. The shorter staple cottons are processed through the comber with a closer setting than for the longer staple cottons because smaller comber waste percentages are usually extracted from this cotton in commercial practice.

Yarn strength is perhaps the most important and reliable test of yarn quality. Yarn strength not only determines the range of the usefulness of a given cotton, but is also an indication of spinning and weaving performance. The yarn strength test is performed on 120 yard skeins (80 turns on a 1.5 yard reel). Results reported are based on the average of 25 skeins for each yarn number. Yarn strength is reported in terms of skein strength since studies have shown that such strength values are more closely related to fabric strength as well as to fiber properties than single strand yarn strength. Skein strength data for the two numbers spun are reported for each lot. Length, strength and fineness influence yarn strength more than other fiber properties.

The following descriptive terms may be of help in determining the relative level of yarn strength in their report:

Kind of yarn staple length group and description	Yarn skein strength in pounds for the specified yarn numbers	
Carded yarns:		
Short staple group:	8s	22s
Low	268 - 288	79 - 87
Average	289 - 309	88 - 96
High	310 - 330	97 - 105
Medium staple group:	22s	50s
Low	86 - 98	26 - 32
Average	99 - 111	33 - 39
High	112 - 124	40 - 46
Long staple group:	22s	50s
Low	90 - 106	27 - 35
Average	107 - 123	36 - 44
High	124 - 140	45 - 53
Combed yarns:		
Long staple group:	22s	50s
Low	108 - 124	36 - 44
Average	125 - 141	45 - 53
High	142 - 158	54 - 62
Extra-long staple group:	50s	80s
Low	61 - 63	32 - 34
Average	64 - 66	35 - 37
High	67 - 69	38 - 40

Data source - 317 short staple, 1565 medium staple, 194 long staple and 100 extra-long staple lots of cotton tested from the crops of 1971-75.

Yarn elongation results were obtained in connection with yarn skein strength tests. Elongation in the yarn is highly correlated with fiber elongation. Yarns with high elongation give less end breakage in weaving than yarns with low elongation.

The following descriptive terms may be of some help in determining the relative levels of yarn elongation:

Kind of yarn, staple length group, and description	Yarn elongation in percent for the specified yarn numbers	
Carded yarns:		
Short staple group:	8s	22s
Low	6.4 - 7.0	5.3 - 5.9
Average	7.1 - 7.7	6.0 - 6.6
High	7.8 - 8.4	6.7 - 7.3
Medium staple group:	22s	50s
Low	5.2 - 5.8	3.6 - 4.2
Average	5.9 - 6.5	4.3 - 4.9
High	6.6 - 7.2	5.0 - 5.6
Long staple group:	22s	50s
Low	5.4 - 5.8	4.1 - 4.5
Average	5.9 - 6.3	4.6 - 5.0
High	6.4 - 6.8	5.1 - 5.5
Combed yarns:		
Long staple group:	22s	50s
Low	5.9 - 6.3	4.5 - 4.9
Average	6.4 - 6.8	5.0 - 5.4
High	6.9 - 7.3	5.5 - 5.9
Extra-long staple group:	50s	80s
Low	5.2 - 5.4	4.5 - 4.7
Average	5.5 - 5.7	4.8 - 5.0
High	5.8 - 6.0	5.1 - 5.3

Data source - 317 short staple, 1565 medium staple, 194 long staple and 100 extra-long staple lots of cotton tested from the crops of 1971-75.

Yarn Appearance refers to the relative evenness, smoothness and freedom from foreign material of the yarn as evaluated by a visual comparison of the yarn with the latest standards adopted by the American Society for Testing and Materials. Since appearance is very important in many types of cotton products, high yarn appearance grades are desirable. The following descriptive terms may be of help in determining the relative levels of yarn appearance in this report.

Kind of yarn, staple length group, and description	Yarn appearance index for the specified yarn numbers	
Carded yarns:		
Short staple group:	8s	22s
Low	107 - 115	88 - 100
Average	116 - 124	101 - 113
High	125 - 133	114 - 126
Medium staple group:	22s	50s
Low	86 - 98	66 - 76
Average	99 - 111	77 - 87
High	112 - 124	88 - 98
Long staple group:	22s	50s
Low	79 - 93	63 - 73
Average	94 - 108	74 - 84
High	109 - 123	85 - 95
Combed yarns:		
Long staple group:	22s	50s
Low	90 - 104	72 - 84
Average	105 - 119	85 - 97
High	120 - 134	98 - 110
Extra-long staple group:	50s	80s
Low	99 - 107	97 - 107
Average	108 - 116	108 - 118
High	117 - 125	119 - 129

Data source - 317 short staple, 1565 medium staple, 194 long staple and 100 extra-long staple lots of cotton tested from the crops of 1971-75.

Yarn Appearance Grades

Grade	Index
A	130
B+	120
B	110
C+	100
C	90
D+	80
D	70
Below D	60

Yarn imperfections are reported for the two yarn numbers spun for each lot of cotton. These results were obtained on "Neptel" instruments which electronically count the abrupt changes in the silhouette of the yarn while passing it through a beam of light. They are expressed as the number of imperfections per 50 yards of yarn and are based on the average of 10 determinations. This value is an instrument measure of product quality which is associated with the characteristics of the cotton. It is more highly correlated with fiber properties than either neps in card web or yarn appearance grade. The following descriptive terms may be of help in determining the relative level of yarn imperfections in this report:

Kind of yarn, staple length group, and description	Yarn imperfections for the specified yarn numbers	
Carded yarns:		
Short staple group:	8s	22s
Low	9 - 31	7 - 19
Average	32 - 54	20 - 32
High	55 - 77	33 - 35
Medium staple group:	22s	50s
Low	5 - 15	3 - 11
Average	16 - 26	12 - 20
High	27 - 37	21 - 29
Long staple group:	22s	50s
Low	7 - 17	5 - 13
Average	18 - 28	14 - 22
High	29 - 39	23 - 31
Combed yarns:		
Long staple group:	22s	50s
Low	1 - 7	0 - 5
Average	8 - 14	6 - 12
High	15 - 21	13 - 19
Extra-long staple group:	50s	80s
Low	0 - 1	0
Average	2 - 4	1 - 3
High	5 - 7	4 - 6

Data source - 317 short staple, 1565 medium staple, 194 long staple and 100 extra-long staple lots of cotton tested from the crops of 1971-75.

Spinning potential yarn number indicates the finest yarn number that can be spun from a cotton sample without any end-breakage when using specific processing procedures. In performing these tests, new travelers, draft gears, and twist gears are installed for the selected yarn number and it is spun for a 15-minute trial period. The yarn number selected is considered acceptable if there is an end-breakage involving 5 to 15 of the 96 spindles employed during the trial run. If end-breakages occur on less than 5 or more than 15 of the 96 spindles during the trial period, a different yarn number is selected to be spun for another 15-minute trial period until the acceptable end-breakage rate is obtained. The acceptable trial period is also used for a warm-up period which is followed by a 1-hour test period. The spinning potential yarn number is calculated from the deviation of the actual yarn number spun from the desired yarn number and the number of spindles with end-breakages during the 1-hour test run. The following descriptive terms may be of help in determining the relative level of spinning potential yarn numbers in this report:

Spinning Potential (SPY No.)

	Short staple group	Medium staple group	Long staple group
Low	32 - 38	49 - 57	51 - 65
Average	39 - 45	58 - 66	66 - 80
High	46 - 52	67 - 75	81 - 95

Data source - 317 short staple, 1565 medium staple and 194 long staple lots of cotton tested from the crops of 1971-75.

Chemical Finishing Tests

Information with respect to the bleaching and dyeing properties of different varieties and growths of cotton is of particular significance to textile manufacturers from the standpoint of providing a basis for avoiding problems that may result from blending different varieties and growths having different dyeing properties. Data with respect to the chemical finishing properties of the principal varieties and growths of cotton as herein reported may thus be used as a basis for selecting cottons of similar finishing properties. Details of the chemical finishing tests are described in Agricultural Information Bulletin No. 167 - "Bleaching, Dyeing, and Mercerizing Test Results on Some Varieties of Cotton Grown by Selected Cotton Improvement Groups, Crop of 1955".

Color measurements of cotton yarn samples were made on a Gardner Automatic Color Difference Meter. These values are reported in terms of R_d and b, two of the three scales on the instrument. The R_d scale measures percentages of diffuse reflectance from 0 to 100. The b scale provides a measure of yellowness in the direction of +b and of blueness in the direction of -b. The degree of either yellowness or blueness increases as the scale numbers increase. These data when plotted with R_d on the vertical ordinate and with

b on the horizontal ordinate are similar to the color values for raw cotton when plotted in relation to the official grade standards as described in the earlier section on color of raw stock.

While the color factors R_d and b are not independent of each other and should be considered together in any overall interpretation, for many purposes it would be convenient in evaluating results to have them in terms of a single number. For raw cotton the grade index provides one way to do this in a straightforward manner. A similar method has been followed in developing conversion formulae and diagrams for each form of cotton measured for color as a part of the chemical finishing studies of the Cotton Division. In each, the index for Middling is held at 100 and that for Good Ordinary is held close to 70. By use of such indexes the color measurements of raw stock, gray yarns, bleached yarns, and bleached and dyed yarns may be converted to a single number specification. For details see "Grade and Color Indexes Developed for Evaluating Results of USDA Cotton Finishing Tests", (AMS-245, June 1958).

Table 24--Cotton: Standard machine settings and specifications for processing specified staple length groupings

Process	Staple length groups			
	Short	Medium	Long	Extra long
1. PICKER				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	60	60	60	60
Each test lot is processed through a finisher type picker twice to produce the specified weight of lap.....ounces per yard	14	14	14	11
Type of beater.....	Kirschner	Kirschner	Kirschner	Kirschner
Beater speed.....r.p.m.	1,000	1,000	1,000	1,000
Settings:				
Feed roll to beater.....inches	3/16	3/16	3/16	3/8
Grids to beater, top.....inches	5/16	5/16	5/16	9/16
Grids to beater, bottom.....inches	11/16	11/16	11/16	11/16
2. CARD				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	60	60	60	60
Picker lap fed.....ounces per yard	14	14	14	11
Sliver delivered.....grains per yard	50	50	50	40
Production rate.....pounds per hour	12-1/2	9-1/2	6-1/2	4-1/2
Doffer speed.....r.p.m.	11	8	6	4
Cylinder speed.....r.p.m.	165	165	165	165
Flat speed.....inches per minute	2-7/8	2-7/8	2-7/8	2-7/8
Licker-in speed.....r.p.m.	435	435	435	435
Clothing:				
Cylinder, Hollingsworth metallic.....number	35	35	25	25
Doffer, Hollingsworth metallic.....number	29	29	29	29
Flats, Fillet.....number	110	110	130	130
Settings:				
Feed plate to licker-in.....inches	0.010	0.010	0.010	0.017
Mote knife to licker-in, top.....inches	.012	.012	.012	.012
Mote knife to licker-in, bottom.....inches	.010	.010	.010	.010
Licker-in screen, front.....inches	.029	.029	.029	.029
Licker-in screen, back.....inches	.017	.017	.017	.017
Licker-in to cylinder.....inches	.007	.007	.007	.007
Flats to cylinder, back, center, and front...inches	.009	.009	.009	.009
Back plate to cylinder, top.....inches	.029	.029	.029	.029
Back plate to cylinder, bottom.....inches	.034	.034	.034	.034
Front plate to cylinder, top.....inches	.029	.029	.029	.029
Front plate to cylinder, bottom.....inches	.034	.034	.034	.034
Doffer to cylinder.....inches	.007	.007	.007	.007
Cylinder screen, back.....inches	.029	.029	.029	.029
Cylinder screen, center.....inches	.034	.034	.034	.034
Cylinder screen, front.....inches	3/16	3/16	3/16	3/16
Doffer comb to doffer.....inches	.022	.022	.022	.022
Crusher rolls pressure.....pounds	281	281	281	281
3. SLIVER LAPPER (combed only)				
Standard atmospheric conditions:				
Temperature.....degrees F.	--	--	75	75
Relative humidity.....percent	--	--	60	60
Sliver fed, 20 each.....grains per yard	--	--	50	40
Lap delivered.....grains per yard	--	--	595	525
Speed.....yards per minute	--	--	46	46
Roll settings (center to center):				
First to second.....inches plus fiber length 1/	--	--	5/16	5/16
Second to third.....inches plus fiber length 1/	--	--	9/16	9/16

1/ Allowances listed are in addition to fiber lengths in terms of "pulls" made on card sliver. These pulls are estimated from Fibrograph length tests except for extra long staple cottons.

Table 24--Cotton: Standard machine settings and specifications for processing specified staple length groupings--Continued

Process	Staple length groups			
	Short	Medium	Long	Extra long
4. RIBBON LAPPER (combed only)				
Standard atmospheric conditions:				
Temperature.....degrees F.	--	--	75	75
Relative humidity.....percent	--	--	60	60
Laps fed, 4.....grains per yard	--	--	595	525
Laps delivered.....grains per yard	--	--	610	610
Speed.....yards per minute	--	--	47	47
Roll settings (center to center):				
First to second.....inches plus fiber length 1/	--	--	4/16	4/16
Second to third.....inches plus fiber length 1/	--	--	7/16	7/16
Third to fourth.....inches plus fiber length 1/	--	--	10/16	10/16
5. COMBER (Model D-4)				
Standard atmospheric conditions:				
Temperature.....degrees F.	--	--	75	75
Relative humidity.....percent	--	--	60	60
Laps fed, 8 each.....grains per yard	--	--	610	610
Sliver delivered.....grains per yard	--	--	50	40
Production per hour.....pounds	--	--	16	13
Setting of cushion plate to detaching roll.....inches	--	--	.48	.54
Nominal waste.....percent	--	--	16 to 17	16 to 17
6. DRAWING FRAME (synthetic top rolls)				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	60	60	60	60
First process:				
Sliver fed, 6 each.....grains per yard	50	50	50	40
Sliver delivered.....grains per yard	60	53	53	42
Second process:				
Sliver fed, 6 each.....grains per yard	60	53	53	42
Sliver delivered.....grains per yard	70	55	55	44
Speed.....yards per minute	36	36	36	36
Roll settings (center to center):				
First to second.....inches plus fiber length 1/	4/16	4/16	4/16	4/16
Second to third.....inches plus fiber length 1/	7/16	7/16	7/16	7/16
Third to fourth.....inches plus fiber length 1/	10/16	10/16	10/16	10/16
7. LONG DRAFT ROVING (8 x 4, 2 apron type)				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	60	60	60	60
Sliver fed.....grains per yard	70	55	55	44
Roving delivered.....hank	1.10	1.80	1.80	4.25
Spindle speed.....r.p.m.	1235	1235	1235	1235
Roll settings (center to center):				
First to second, standard.....inches	2-1/4	2-1/4	2-1/4	2-1/4
Third to fourth.....inches plus fiber length 1/	1/4	1/4	1/4	1/4
8. LONG DRAFT SPINNING (2 apron type)				
Standard atmospheric conditions:				
Temperature.....degrees F.	75	75	75	75
Relative humidity.....percent	65	65	65	65
Roving fed single.....hank	1.10	1.80	1.80	4.25
Twist multiplier.....number	4.4	4.0	3.8	3.6
Carded yarns.....number 2/	8s & 22s	22s & 50s	22s & 50s	--
Combed yarns.....number	--	--	22s & 50s	50s & 80s
Spindle speed.....r.p.m. 3/	9000	9000	9000	9000
Roll settings (center to center):				
First to second, standard.....inches	2-1/16	2-1/16	2-1/16	2-1/16
Second to third, standard.....inches	1-3/4	1-3/4	1-3/4	1-3/4

2/ Additional yarn is spun on a 96 spindle wide gage frame at 9,000 r.p.m. spindle speed to determine the spinning potential yarn number or the finest yarn number that can be spun without end-breakage.

3/ All standard yarn numbers are spun on narrow gage frames with spindle speeds of 9,000 r.p.m. except for 8s, which are spun on a wide gage frame with spindle speed of 5,500 r.p.m.